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Appendix A: Authority and Legal Compliance

Appendix A
Authority And Legal Compliance

Wetland Management Districts Legal Mandate

The Migratory Bird Conservation Act was established on February 18, 1929, (45 Stat. 1222), as amended, 16 (U.S.C. 715d, 715e, 715f, to 715k and 715l to 715r). The Act provides for the acquisition of lands determined to be suitable as an inviolate sanctuary for migratory birds.

The Migratory Bird Hunting Stamp Act of March 16, 1934 was amended in 1958 and authorized the "...acquisition by gift, devise, lease, purchase, or exchange of, small wetland and pothole areas, interest therein, and right-of-way to provide access thereto. Such small areas to be designated as 'Waterfowl Productions Areas', may be acquired without regard to the limitations and requirements of the Migratory Bird Conservation Act,..."

"...As Waterfowl Production Areas" subject to "...all of the provisions of such Act...except the inviolate sanctuary provisions...."16 U.S.C. 718(c) (Migratory Bird Hunting and Conservation Stamp).

Mandate for FMHa Easements and Fee title Transfers. ."...for conservation purposes..." 7 U.S.C. at 2002 (Consolidated Farm and Rural Development Act).

Legal Context

In addition to the 1958 Ammendment to the Migratory Bird Hunting and Conservation Stamp Act 16 U.S.C. 718 (d) (c) and the National Wildlife Refuge System Improvement Act of 1997, the legal and policy guidance for the operation of national wildlife refuges are contained in the following documents or acts:

The work done by the Fish and Wildlife Service is largely mandated by a number of laws (Acts) and Executive Orders which pertain to the conservation and protection of natural and cultural resources. Those Acts and Executive Orders which are most important in establishing and administering the Wetland Management Districts (Districts) are listed below.

Migratory Bird Hunting and Conservation Stamp Act 16 U.S.C. 718 (d) (c)
National Wildlife Refuge System Improvement Act of 1997
Omnibus Parks and Public Lands Management Act of 1996 (Sec. 305, P.L. 104-333).
Title 50 of the Code of Federal Regulation, Subchapters B and C
Migratory Bird Hunting and Conservation Stamp Act (16 USC 718-718-h).
Migratory Bird Treaty Act of 1918 (16 USC 703-712).
National Environmental Policy Act of 1969 (PL 91-190, 42 USC 4321-4347).
Bald Eagle Protection Act of 1940 (16 USC 668-668d)
American Indian Religious Freedom Act (PL 95-341, [1978], 92 Stat. 42 USC 1996).
Antiquities Act (P.L. 59-209, approved 6/8/1906, 34 Stat. 225, 16 USC 431-433).
Reservoir Salvage Act, 16 USC 469).
Executive Order 13007 – Sacred Sites (5/24/1996).

National Environmental Policy Act of 1969 (NEPA). The purposes of the NEPA are to: declare a national policy which will encourage productive and enjoyable harmony between man and his environment; promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; enrich the understanding of the ecological systems and natural resources important to the Nation; and establish a Council on Environmental Quality.

The Endangered Species Act of 1973, as amended. This Act ensures that projects not affect the continued existence of any endangered or threatened species in the project area or result in destruction or adverse modification of their critical habitats.

Executive Order 11988. E.O. 11988 directs Federal agencies to (1) avoid development in the floodplain unless it is the only practical alternative, (2) reduce the hazards and risks associated with floods, (3) minimize the impact of floods on human safety, health, and welfare, and (4) restore and preserve the natural and beneficial values of the floodplain.

Executive Order 11990. E.O. 11990 directs Federal agencies to (1) minimize destruction, loss, or degradation of wetlands and (2) preserve and enhance the natural and beneficial values of wetlands when a practical alternative exists.

Executive Order 12372 (Intergovernmental Review of Federal Programs). In compliance, the Service will send copies of the Environmental Assessment to State Planning Agencies for review.

Executive Order 12996 (Management and General Public Use of the National Wildlife Refuge System). E.O. 12996 provides directives to the Secretary of the Interior on compatible wildlife-dependent recreational activities (hunting, fishing, wildlife observation, photography, environmental education, and interpretation).

The Archeological Resources Protection Act of 1979. Section 14 of the Archaeological Resources Protection Act of 1979 requires an inventory program of all Federal lands. This Act expands upon the Antiquities Act to protect all archeological sites more than 100 years old on Federal land, and to ensure that archeological investigations on Federal land are performed in the public interest by qualified persons.

Uniform Relocation and Assistance and Real Property Acquisition Policies Act of 1970, as amended. This Act provides for uniform and equitable treatment of persons who sell their homes, businesses, or farms to the Service. The Act requires that any purchase offer be no less than the fair market value of the property.

The National Historic Preservation Act of 1966, as amended; Executive Order 11593 (Protection and Enhancement of the Cultural Environment); and Title 36, Code of Federal Regulations, Part 800 (Protection of Historic Properties). Section 106 of the National Historic Preservation Act of 1966 requires Federal agencies to consider the effects of their undertaking on properties meeting criteria for the National Register of Historic Places. The regulations in 36 CFR Part 800 describe how Federal agencies are to identify historic properties, determine effect on significant historic properties, and mitigate adverse effects. Section 110 of the 1966 Act codifies the salient elements from E.O. 11593, “to ensure that historic preservation is fully integrated into ongoing programs and missions of Federal agencies.” Section 110 also requires each Federal agency to establish a program leading to inventory of all historic properties on its lands.

The Native American Graves Protection and Repatriation Act of 1990. Directs Federal agencies to protect Native American human remains and associated burial items located on or removed from Federal land.

Federal Farmland Protection Policy Act of 1981, as amended. The Act, is intended to minimize the extent to which a project would contribute to the conversion of farmland to nonagricultural uses.

Clean Water Act (Section 401 and 404). Section 404 of the Act is intended to protect access to and quality of the nation's waters by preventing the unnecessary loss of wetlands and other sensitive aquatic areas. Section 401 of the Act requires water quality certification prior to the issuance of a 404 permit and for other activities discharging into a water body.

Rivers and Harbor Act (Section 10 of 1899). Section 10 of this Act regulates the placement of fill in navigable waters of the United States.

Refuge Revenue Sharing Act of 1935, as amended. This act requires revenue sharing provisions to all fee-title ownerships that are administered solely or primarily by the Secretary through the Service.

Migratory Bird Conservation Act of 1929. The Act established the Migratory Bird Conservation Commission which consists of the Secretaries of the Interior (chairman), Agriculture, and Transportation, two members from the House of Representatives, and an ex-officio member from the state in which a project is located. The Commission approves acquisition of land and water, or interests therein, and sets the priorities for acquisition of lands by the Secretary for sanctuaries or for other management purposes. Under this Act, to acquire lands, or interests therein, the state concerned must consent to such acquisition by legislation. Such legislation has been enacted by most states.

Archaeological and Historic Preservation Act of 1974. This Act amends the Reservoir Salvage Act of 1960 to expand its provisions to the preservation of historic and archaeological data in all Federal or federally assisted or licensed construction projects that might otherwise be lost. This Act directs Federal agencies to notify the Secretary of the Interior whenever they find a Federal or federally assisted, licensed or permitted project may cause loss or destruction of significant scientific, prehistoric or archaeological data. Funds may be appropriated, donated and/or transferred for the recovery, protection and preservation of such data.

Fish and Wildlife Act of 1956. This Act initially established the Fish and Wildlife Service underthe Assistant Secretary for Fish and Wildlife and a Commissioner for Fish and Wildlife. The Service consisted of the Bureau of Sport Fisheries and Wildlife and a Bureau of Commercial Fisheries, each having a Director. In 1970, the Bureau of Commercial Fisheries was transferred to the Department of Commerce. The Act was amended by Public Law 93-271 to abolish the office of Commissioner and establish the U.S. Fish and Wildlife Service under a Director. Under this Act, the Secretary is authorized to take such steps as may be required for the development, advancement, management, conservation, and protection of fish and wildlife resources including but not limited to research, development of existing facilities, and acquisition by purchase or exchange of land and water or interests therein. The Act also authorizes the Service to accept gifts of real or personal property for its benefit and use in performing its activities and services. Such gifts qualify under Federal income, estate, or gift tax laws as a gift to the United States.

Fish and Wildlife Improvement Act of 1978. This act was passed to improve the administration of fish and wildlife programs and amends several earlier laws including the Refuge Recreation Act, the National Wildlife Refuge System Administration Act, and the Fish and Wildlife Act of 1956. It authorizes the Secretary to accept gifts and bequests of real and personal property on behalf of the United States. It also authorizes the use of volunteers on Service projects and appropriations to carry out a volunteer program.

Land and Water Conservation Fund Act of 1965. This Act provides funding through receipts from the sale of surplus Federal land, appropriations from oil and gas receipts from the outer continental shelf, and other sources for land acquisition under several authorities. Appropriations from the Fund may be used for matching grants to states for outdoor recreation projects and for land acquisition by various Federal agencies, including the Fish and Wildlife Service.

National Wildlife Refuge System Administration Act of 1966. This Act defines the National Wildlife Refuge System as including wildlife refuges, areas for the protection and conservation of fish and wildlife which are threatened with extinction, wildlife ranges, game ranges, wildlife management areas, and waterfowl production areas. The Secretary is authorized to permit any use of an area provided such use is compatible with the major purposes for which such area was established. The purchase consideration for rights-of-way go into the Migratory Bird Conservation Fund for the acquisition of lands. By regulation, up to 40 percent of an area acquired for a migratory bird sanctuary may be opened to migratory bird hunting unless the Secretary finds that the taking of any species of migratory game birds in more than 40 percent of such area would be beneficial to the species. The Act requires an Act of Congress for the divestiture of lands in the system, except (1) lands acquired with Migratory Bird Conservation Commission funds, and (2) lands can be removed from the system by land exchange, or if brought into the system by a cooperative agreement, then pursuant to the terms of the agreement.

Refuge Recreation Act of 1962. This Act authorizes the Secretary of the Interior to administer refuges, hatcheries, and other conservation areas for recreational use, when such uses do not interfere with the areas' primary purposes. It authorizes construction and maintenance of recreational facilities and the acquisition of land for incidental fish and wildlife oriented recreational development or protection of natural resources. It also authorizes the charging of fees for public use.

Appendix B: Priority Bird Species

PRIORITY BIRD SPECIES FOR BCR 23: PRAIRIE HARDWOOD TRANSITION

SPECIES	USFWS BCR 23 BCC	USFWS REGION 3 RCP	PARTNERS IN FLIGHT PA 16	STATE AGENCY STATUS MN	WI	MI	IA	IL	IN
Common Loon		X			SC	T			
Red-necked Grebe					E				
Western Grebe					SC				
American White Pelican				SC	SC				
Double-crested Cormorant		X							
American Bittern	X	X			SC	SC		E	E
Least Bittern		X			SC	T		T	E
Black-crowned Night-Heron					SC	SC		E	E
Snow Goose		X							
Canada Goose (giant race)		X							
Canda Goose (urban giants)		X							
Canada Goose (s. James Bay)		X							
Trumpeter Swan		X		T	E	E			E
Wood Duck		X							
American Wigeon					SC				
American Black Duck		X			SC				
Mallard		X							
Blue-winged Teal		X			SC				
Northern Pintail		X			SC				
Canvasback		X			SC				
Redhead					SC				
Lesser Scaup		X			SC				
Common Goldeneye					SC				
Common Merganser					SC				
Red-breasted Merganser					SC				
Osprey					T	T			
Bald Eagle		X		SC	SC	T	E	T	E
Northern Harrier		X			SC	SC	E	E	E
Northern Goshawk		X			SC	SC			
Red-shouldered Hawk		X		SC	T	T	E	T	SC
Swainson's Hawk		X							
Peregrine Falcon	X	X		T	E	E	E	E	E
Sharp-tailed Grouse					SC				
Greater Prairie-Chicken				SC	T				
Yellow Rail		X		SC	T	T			
Black Rail		X			SC			E	E
King Rail		X		E	SC	E		E	E
Common Moorhen				SC	SC	SC		T	
Piping Plover		X			E	E			
Greater Yellowlegs	X								
Upland Sandpiper	X	X			SC			E	E
Hudsonian Godwit	X	X							
Marbled Godwit	X	X		SC					
Stilt Sandpiper	X	X							
Buff-breasted Sandpiper	X	X							
Short-billed Dowitcher	X	X							
American Woodcock		X							
Wilson's Phalarope	X	X		T	SC	SC		E	
Common Tern	X	X			E	T			
Forster's Tern				SC	E	SC		E	
Black Tern	X	X			SC	SC		E	E
Black-billed Cuckoo	X	X							

PRIORITY BIRD SPECIES FOR BCR 23: PRAIRIE HARDWOOD TRANSITION

SPECIES	USFWS BCR 23 BCC	USFWS REGION 3 RCP	PARTNERS IN FLIGHT PA 16	STATE AGENCY STATUS MN	WI	MI	IA	IL	IN
Yellow-billed Cuckoo		X			SC				
Barn Owl		X			E	E	E	E	E
Long-eared Owl	X				SC	T	T		
Short-eared Owl	X	X		SC	SC	E	E	E	E
Red-headed Woodpecker	X	X			SC				
Olive-sided Flycatcher		X							
Acadian Flycatcher	X	X		SC	T				
Loggerhead Shrike	X	X		T	E	E		T	E
Bell's Vireo	X	X			T				
Sedge Wren	X	X			SC				E
Veery		X			SC				
Wood Thrush	X	X			SC				
Blue-winged Warbler	X	X							
Golden-winged Warbler	X	X			SC				E
Yellow-throated Warbler					E	T			
Kirtland's Warbler		X			SC	E			E
Prairie Warbler		X				E			
Cerulean Warbler	X	X		SC	T	SC			SC
Prothonotary Warbler					SC	SC			
Worm-eating Warbler		X			E				SC
Louisiana Waterthrush		X		SC	SC	SC			
Kentucky Warbler	X	X			T				
Hooded Warbler				SC	T	SC			SC
Yellow-breasted Chat					SC				
Lark Sparrow					SC				
Grasshopper Sparrow		X			SC				
Henslow's Sparrow	X	X		E	T	T	T	E	E
LeConte's Sparrow		X							
Nelson's Sharp-tailed Sparrow		X		SC	SC				
Dickcissel	X	X			SC	SC			
Bobolink	X	X			SC				
Eastern Meadowlark		X			SC				
Western Meadowlark		X			SC				
Yellow-headed Blackbird						SC		E	E
Orchard Oriole					SC				
Evening Grosbeak					SC				

KEY

BCC Birds of Conservation Concern: U.S. Fish & Wildlife Service national, FWS regional, and BCR lists
RCP Regional Conservation Priority, Region 3 U.S. Fish & Wildlife Service
BCR North American Bird Conservation Initiative (NABCI) Bird Conservation Region
PA Partners in Flight Physiographic Area
E Endangered
T Threatened
SC Special Concern

Appendix C: Species List

Appendix C: Species List, Litchfield Wetlands Management District

Amphibians of the Litchfield WMD (17 species, 1 subspecies)
(from Amphibians and Reptiles Native to Minnesota by Oldfield and Moriarity)

Order Cavdata (Salamanders)		
Family Nectoridae (giant salamanders)		
Necturus maculosus maculosus	mudpuppy	(4,9)
Family Salamandridae (newts)		
Notophthalmus viridescens louisianensis	central newt	1,7,9 (3)
Family Ambystomatidae (mole salamanders)		
Ambystoma laterale	blue-spotted salamander	7,9 (1,8)
Ambystoma tigrinum tigrinum	eastern tiger salamander	All (1,2,8)
?Plethodon cinereus	redback salamander	(5)
Order Anura		
Family Bufonidae (toads)		
Bufo americanus americanus	eastern American toad	All (3,6)
Bufo cognetus	great plains toad	1,4,5 (6,7)
?Bufo hemiophrys	Canadian toad	(1)
Family Hylidae (treefrogs)		
Hyla chrysoscelis	Cope's gray tree frog	1,7,8,9 (3)
Hyla versicolor	gray tree frog	All (2,3,6,8)
Pseudoacris crucifer crucifer	northern spring peeper	1,6 (9)
?Pseudoacris triseriata maculata	boreal chorus frog	(8)
Pseudoacris triseriata triseriata	western chorus frog	All (4,6,8)
Family Ranidae (true frogs)		
Rana catesbeiana	bullfrog	7 (4)
Rana clamitans melanota	green frog	3,7,9 (2,8)
Rana pipiens	northern leopard frog	All
Rana septentrionalis	mink frog	8 (7)
Rana sylvatica	wood frog	1,6,8 (2,3,7,9)

Birds of the Litchfield WMD
(from Birds of Minnesota by Janssen and Peterson's Guide to E. Birds)
(**Bold** indicates listed species; Counties indicated breeding birds)

Key

Order
Family
Scientific Name common name breeding counties (possible)

County numbers
1 = Kandiyohi
2 = McLeod
3 = Meeker
4 = Nicollet
5 = Renville
6 = Sibley
7 = Stearns
8 = Todd
9 = Wright

Order Gaviiformes (loons)
Family Gaviidae (loons)

Gavia immer	common loon	1,3,7,8,9 (All)

Order Podicipediformes (grebes)
Family Podicipedidae (grebes)

Aechmophorus clarkii	Clark's grebe	
Aechmophorus occidentalis	western grebe	1,4,6,9 (All)
Podiceps auritus	**horned grebe**	
Podiceps grisegena	red-necked grebe	1,3,4,6,7,8,9
Podiceps nigricollis	eared grebe	1,4 (3,5,6,9)
Podilymbus podiceps	pied-billed grebe	All

Order Pelecaniformes (tropicbirds, pelicans, gannets, boobies, cormorants, darters and frigatebirds)
Family Pelecanidae (pelicans)

Pelecanus erythrorhynchos	**American white pelican**	

Family Phalacrocoracidae (cormorants)

Phalacrocorax auritus	double-crested cormorant	All (4,6)

Family Anhingidae (anhingas)

Anhinga anhinga	anhinga	

Order Ciconiiformes (herons, bitterns, storks, ibises, flamingos)
Family Ardeidae (bitterns, herons, and egrets)

Ardea herodias	great blue heron	All (5)
Botaurus lentiginosus	American bittern	3 (All)
Bubulcus ibis	cattle egret	1
Butorides striatus	green heron	1,3,7,9 (All)
Casmerodius albus	great egret	1,3,6,7,9 (4,5)
Egretta thula	snowy egret	1 (4)

Ixobrychus exilis	least bittern	4,7,9 (All)
Nycticorax nycticorax	black-crowned night heron	1,4 (All)
Nycticorax violaceus	yellow-crowned night heron	(7)

Order Anseriformes (waterfowl)

Family Anatidae (whistling ducks, swans, geese, diving ducks, stifftails and mergansers)

Subfamily Anserinae (geese)

Anser albifrons	greater white-fronted goose	
Branta canadensis	Canada goose	All
Chen caerulescens	snow goose	
Chen rossii	Ross' goose	

Subfamily Cygninae (swans)

Cygnus buccinator	**trumpeter swan**	9 (1,3)
Cygnus columbianus	tundra swan	
Cygnus olor	mute swan	

Subfamily Anatinae (marsh ducks)

Aix sponsa	wood duck	All
Anas acuta	northern pintail	7 (All)
Anas americana	American wigeon	7,8
Anas crecca	American green-winged teal	1,3,9
Anas clypeata	northern shoveler	7 (All)
Anas discors	blue-winged teal	All
Anas penelope	Eurasian wigeon	
Anas platyrhynchos	mallard	All
Anas rubripes	American black duck	3
Anas strepera	gadwall	(All)

Subfamily Aythyinae (diving ducks)

Aythya affinis	lesser scaup	
Aythya americana	redhead	1,3,4,8 (All)
Aythya collaris	ring-necked duck	1,4,7,9 (All)
Aythya marila	greater scaup	
Aythya valisineria	canvasback	1,7,8,9 (All)
Bucephala albeola	bufflehead	
Bucephala clangula	common goldeneye	
Clangula hyemalis	oldsquaw	
Histrionicus histrionicus	harlequin duck	
Melanitta nigra	black scoter	
Somateria spectabilis	king eider	

Subfamily Merginae (mergansers)

Lophodytes cucullatus	hooded merganser	3,4,7,9 (All)
Mergus merganser	common merganser	
Mergus serrator	red-breasted merganser	

Subfamily Oxyurinae (stifftails)

Oxyura jamaicensis	ruddy duck	1,2,7,8,9 (All)

Order Falconiformes (vultures, kites, accipiters, buteos, eagles, harriers, ospreys, caracaras and falcons)		
Family Cathartidae (american vultures)		
Cathartes aura	turkey vulture	(?)
Family Accipitridae (kites, accipiters, buteos, eagles and harriers)		
Subfamily Accipitrinae (accipiters)		
Accipiter cooperii	Cooper's hawk	7 (All)
Accipiter gentilis	**Goshawk**	
Accipiter striatus	sharp-shinned hawk	(8)
Subfamily Buteoninae (buteos and eagles)		
Aquila chrysaetos	golden eagle	
Buteo jamaicensis	red-tailed hawk	1,3,7,8,9 (All)
Buteo lagopus	rough-legged hawk	
Buteo lineatus	**red-shouldered hawk**	7 (2,3,8,9)
Buteo platypterus	broad-winged hawk	7 (8,9)
Buteo regalis	ferruginous hawk	
Buteo swainsoni	Swainson's hawk	
Haliaeetus leucocephalus	**bald eagle**	1,3,7 (8)
Subfamily Circinae (harriers)		
Circus cyaneus	northern harrier	1,7 (All)
Family Pandionidae (ospreys)		
Pandion haliaetus	osprey	
Family Falconidae (caracaras and falcons)		
Subfamily Faconinae (falcons)		
Falco columbarius	merlin	(1)
Falco mexicanus	prairie falcon	
Falco peregrinus	**peregrine falcon**	7
Falco rusticolus	gyrfalcon	
Falco sparverius	American kestrel	All
Order Galliformes (grouse, quail and turkeys)		
Family Tetraonidae (grouse)		
Bonasa umbellus	ruffed grouse	7 (8,9)
Tympanuchus cupido	**greater prairie-chicken**	
Family Phasianidae (partridge, pheasant and quail)		
Perdix perdix	gray partridge	1,6,7,9 (All)
Phasianus colchicus	ring-necked pheasant	All
Family Meleagrididae (turkeys)		
Meleagris gallopavo	wild turkey	(?)
Order Gruiformes (cranes, limpkins and rails)		
Family Rallidae (rails, gallinules and coots)		
Coturnicops noveboracensis	**yellow rail**	(7)
Fulica americana	American coot	All
Gallinula chloropus	**common moorhen**	7 (1,4,6,8,9)
Porzana carolina	sora	1,7,9 (All)
Rallus limicola	Virginia rail	1,4,7,9 (All)

Rallus elegans	**king rail**	(7)

Family Gruidae (cranes)

Grus americana	**Whooping Crane**	
Grus canadensis	sandhill crane	(1,2,3,7)

Order Charadriiformes (oystercatchers, stilts, avocets, plovers, sandpipers, jaegers, skuas, gulls, terns and auks)

Family Charadriidae (plovers)

Charadrius melodus	**piping plover**	
Charadrius semipalmatus	semipalmated plover	
Charadrius vociferus	killdeer	All
Pluvialis dominica	American golden-plover	
Pluvialis squatarola	black-bellied plover	

Family Recurvirostridae (stilts and avocets)

Recurvirostra americana	American avocet	

Family Scolopacidae (sandpipers, curlew, godwits, turnstones, dowitchers, snipe, woodcock and phalaropes)

Actitis macularia	spotted sandpiper	7 (All)
Arenaria interpres	ruddy turnstone	
Bartramia longicauda	upland sandpiper	7 (All)
Calidris alba	sanderling	
Calidris alpina	dunlin	
Calidris bairdii	Baird's sandpiper	
Calidris canutus	red knot	
Calidris fuscicollis	white-rumped sandpiper	
Calidris himantopus	stilt sandpiper	
Calidris mauri	western sandpiper	
Calidris minutilla	least sandpiper	
Calidris melanotos	pectoral sandpiper	
Calidris pusilla	semipalmated sandpiper	
Catoptrophorus semipalmatus	willet	
Gallinago gallinago	common snipe	1,3,7 (All)
Limnodromus griseus	short-billed dowitcher	
Limnodromus scolopaceus	long-billed dowitcher	
Limosa fedoa	**marbled godwit**	1,7
Numenius phaeopus	whimbrel	
Phalaropus lobatus	red-necked phalarope	
Phalaropus tricolor	**Wilson's phalarope**	(1,7,8)
Philomachus pugnax	ruff	
Scolopax minor	American woodcock	3,7,9 (All)
Tringa solitaria	solitary sandpiper	
Tringa melanoleuca	greater yellowlegs	
Tringa flavipes	lesser yellowlegs	
Tryngites subruficollis	buff-breasted sandpipper	

Family Stercorariidae (jaegers and skuas)

Stercorarius parasiticus	parasitic jaeger	

Family Laridae (gulls, and terns)

Subfamily Larinae (gulls)

Larus argentatus	herring gull	
Larus delawarensis	ring-billed gull	

Larus hyperboreus	glaucous gull	
Larus minutus	little gull	
Larus philadelphia	Bonaparte's gull	(9)
Larus pipixcan	**Franklin's gull**	8 (1)
Larus thayeri	Thayer's gull	
Subfamily Sterninae (terns)		
Chlidonias niger	**black tern**	1,4,7,9 (All)
Sterna caspia	caspian tern	
Sterna forsteri	**Forster's tern**	4,8,9
Sterna hirundo	**common tern**	1
Family Alcidae (auks)		
Synthliboramphus antiquus	ancient murrelet	
Order Columbiformes (pigeons and doves)		
Family Columbidae (pigeons and doves)		
Columba fasciata	band-tailed pigeon	
Columba livia	rock dove	All
Zenaida macroura	mourning dove	All
Order Cuculiformes (cuckoos, roadrunners and anis)		
Family Cuculidae (cuckoos and anis)		
Sufamily Coccyzinae (cuckoos)		
Coccyzus americanus	yellow-billed cuckoo	1,9 (All)
Coccyzus erythropthalmus	black-billed cuckoo	1,9 (All)
Subfamily Crotophaginae (anis)		
Crotophaga sulcirostris	groove-billed ani	
Order Strigiformes (owls)		
Family Strigidae (owls)		
Aegolius acadicus	northern saw-whet owl	8 (7)
Aegolius funereus	boreal owl	1
Asio flammeus	**short-eared owl**	7,3 (1)
Asio otus	long-eard owl	7 (all)
Bubo virginianus	great horned owl	All
Nyctea scandiaca	snowy owl	
Otus asio	Eastern screech owl	5,7 (all)
Strix nebulosa	great gray owl	
Strix varia	barred owl	8,9 (7)
Surnia ulula	northern hawk owl	
Order Caprimulgiformes (goatsuckers)		
Family Caprimulgidae (goatsuckers)		
Subfamily Chordeilinae (nighthawks)		
Chordeiles minor	common nighthawk	All?
Subfamily Caprimulginae (poor-wills)		
Caprimulgus carolinensis	chuck-will's-widow	
Caprimulgus vociferus	whip-poor-will	(All)

Order Apodiformes (swifts and hummingbirds)		
Family Apodidae (swifts)		
Chaetura pelagica	chimney swift	1,7 (All)
Family Trochilidae (hummingbirds)		
Archilochus colubris	ruby-throated hummingbird	1,7,9 (all)
Order Coraciiformes (kingfishers)		
Family Alcedinidae (kingfishers)		
Ceryle alcyon	belted kingfisher	1,7 (All)
Order Piciformes (woodpeckers)		
Family Picidae (woodpeckers)		
Colaptes auratus	northern flicker	1,4,7,9 (all)
Dryocopus pileatus	pileated woodpecker	3,7,8,9 (all)
Melanerpes carolinus	red-bellied woodpecker	1,7,9 (all)
Melanerpes erythrocephalus	red-headed woodpecker	2,7,9 (all)
Picoides arcticus	black-backed woodpecker	
Picoides pubescens	downy woodpecker	All?
Picoides tridactylus	three-toed woodpecker	
Picoides villosus	hairy woodpecker	All?
Sphyrapicus varius	yellow-bellied sapsucker	1,7,9 (all)
Order Passeriformes (passerines)		
Family Tyrannidae (flycatchers)		
Subfamily Fluvicolinae		
Contopus borealis	olive-sided flycatcher	
Contopus virens	eastern wood-pewee	1,7 (all)
Empidonax alnorum	alder flycatcher	1,7 (8)
Empidonax flaviventris	yellow-bellied flycatcher	
Empidonax minimus	least flycatcher	1,7 (all)
Empidonax traillii	willow flycatcher	1,7 (all ex.8)
Empidonax virescens	**acadian flycatcher**	
Sayornis phoebe	eastern phoebe	1,4,7,9 (all)
Subfamily Tyranninae		
Myiarchus crinitus	great crested flycatcher	1,7,9 (all)
Tyrannus tyrannus	eastern kingbird	1,3,7,9 (all)
Tyrannus verticalis	western kingbird	1,7,9 (3,8)
Family Alaudidae (larks)		
Eremophila alpestris	horned lark	7,9 (all)
Family Hirundinidae (swallows)		
Hirundo pyrrhonota	cliff swallow	1,7 (all)
Hirundo rusica	barn swallow	1,3,7,9 (all)
Progne subis	purple martin	1,7,9 (all)
Riparia riparia	bank swallow	1,7,9 (all)
Stelgidopteryx serripennis	N. rough-winged swallow	1,7 (all)
Tachycineta bicolor	tree swallow	1,3,7 (all)

Family Corvidae (jays, nucrackers, magpies and crows)		
Corvus brachyrhynchos	American crow	All
Corvus corax	common raven	
Cyanocitta cristata	blue jay	1,7,9 (all)
Nucifraga columbiana	Clark's nutcracker	
Perisoreus canadensis	gray jay	
Pica pica	black-billed magpie	
Family Paridae (chickadees and titmice)		
Parus atricapillus	black-capped chickadee	1,3,7,9 (all)
Parus bicolor	tufted titmouse	
Parus hudsonicus	boreal chickadee	
Family Sittidae (nuthatches)		
Sitta canadensis	red-breasted nuthatch	7 (9)
Sitta carolinensis	white-breasted nuthach	1,7,9 (all)
Family Certhiidae (creepers)		
Certhia americana	brown creeper	7 (8,9)
Family Troglodytidae (wrens)		
Cistothorus palustris	marsh wren	1,7,9 (all)
Cistothorus platensis	sedge wren	1 (all)
Thryomanes bewickii	bewick's wren	
Thryothorus ludovicianus	carolina wren	
Troglodytes aedon	house wren	1,2,3,7,9 (all)
Troglodytes troglodytes	winter wren	(7)
Family Mimidae (mimic thrushes)		
Dumetella carolinensis	gray catbird	1,3,7,9 (all)
Mimus polyglottos	northern mockingbird	
Toxostoma rufum	brown thrasher	1,3,7,9 (all)
Family Turdidae (thrushes)		
Catharus fuscescens	veery	1 (7,9)
Catharus guttatus	hermit thrush	
Catharus minimus	gray-cheeked thrush	
Catharus ustulatus	Swainson's thrush	
Hylocichla mustelina	wood thrush	4 (5,7,8,9)
Ixoreus naevius	varied thrush	
Myadestes townsendi	Townsend's solitaire	
Sialia sialis	eastern bluebird	All
Sialia currucoides	mountain bluebird	
Turdus migratorius	American robin	All
Family Sylviidae (kinglets and gnatcatchers)		
Polioptila caerulea	blue-gray gnatcatcher	4,5 (7,9)
Regulus calendula	ruby-crowned kinglet	(7)
Regulus satrapa	golden-crowned kinglet	
Family Motacilladae (pipits)		
Anthus spinoletta	water pipit	

Family Bombycillidae (waxwings)		
Bombycilla cedrorum	cedar waxwing	1,7,9 (all)
Bombycilla garrulus	Bohemian waxwing	
Family Laniidae (shrikes)		
Lanius excubitor	northern shrike	
Lanius ludovicianus	**loggerhead shrike**	3,7,9 (1,4,5)
Family Sturnidae (starlings)		
Sturnus vulgaris	European starling	All
Family Vireonidae (vireos)		
Vireo bellii	bell's vireo	
Vireo flavifrons	yellow-throated vireo	1,7,9 (all)
Vireo gilvus	warbling vireo	1,3,7,9 (all)
Vireo griseus	white-eyed vireo	
Vireo olivaceus	red-eyed vireo	1,7,9 (all)
Vireo philadelphicus	Philadelphia vireo	
Vireo solitarius	solitary vireo	
Family Parulidae (warblers)		
Dendroica castanea	bay-breasted warbler	(4,7)
Dendroica cerulea	**cerulean warbler**	1 (4,7,8,9)
Dendroica caerulescens	black-throated blue warbler	
Dendroica coronata	yellow-rumped warbler	
Dendroica dominica	yellow-throated warbler	(1)
Dendroica fusca	blackburnian warbler	
Dendroica magnolia	magnolia warbler	
Dendroica palmarum	palm warbler	
Dendroica pensylvanica	chestnut-sided warbler	(7,8)
Dendroica petechia	yellow warbler	1,3,7,9 (all)
Dendroica pinus	pine warbler	(8)
Dendroica striata	blackpoll warbler	
Dendroica tigrina	Cape May warbler	
Dendroica virens	black-throated green warbler	(9)
Geothlypis trichas	common yellowthroat	1,7 (all)
Icteria virens	yellow-breasted chat	
Mniotilta varia	black-and-white warbler	
Oporornis agilis	Connecticut warbler	
Oporornis formosus	Kentucky warbler	
Oporornis philadelphia	mourning warbler	(8)
Parula americana	northern parula	
Protonotaria citrea	prothonotary warbler	
Seiurus aurocapillus	ovenbird	1,7 (all)
Seiurus motacilla	**Louisiana waterthrush** (4,6)	
Seiurus noveboracensis	northern waterthrush	
Setophaga ruticilla	American redstart	4,7 (all)
Vermivora celata	orange-crowned warbler	
Vermivora chrysoptera	golden-winged warbler	
Vermivora peregrina	Tennesee warbler	
Vermivora pinus	blue-winged warbler	
Vermivora ruficapilla	Nashville warbler	(8)
Wilsonia canadensis	Canada warbler	

Wilsonia citrina	**hooded warbler**	
Wilsonia pusilla	Wilson's warbler	

Family Ploceidae (weaver finches)

Passer domesticus	house sparrow	all

Family Icteridae (blackbirds, bobolinks, orioles, cowbirds, grackles and meadowlarks)

Agelaius phoeniceus	red-winged blackbird	all
Dolichonyx oryzivorus	bobolink	1,3,7 (all)
Euphagus carolinus	rusty blackbird	
Euphagus cyanocephalus	brewer's blackbird	1,7,8 (all)
Icterus galbula	Northern oriole	1,3,7,9 (all)
Icterus spurius	orchard oriole	1,9 (all ex.8)
Molothrus ater	brown-headed cowbird	1,7,9 (all)
Quiscalus quiscula	common grackle	1,7,9 (all)
Sturnella magna	Eastern meadowlark	(4,6,7,8,9)
Sturnella neglecta	Western meadowlark	1 (all)
Xanthocephalus xanthocephalus	yellow-headed blackbird	1,7,8,9 (all)

Family Thraupidae (tanagers)

Piranga ludoviciana	western tanager	
Piranga olivacea	scarlet tanager	1,2,7 (all)
Piranga rubra	summer tanager	

Family Fringillidae (finches, grosbeaks, buntings, sparrows)

Subfamily Carduelinae

Carduelis flammea	common redpoll	
Carduelis hornemanni	hoary redpoll	
Carduelis pinus	pine siskin	7 (8,9)
Carduelis tristis	American goldfinch	1,2,7,9 (all)
Carpodacus mexicanus	house finch	? (1)
Carpodacus purpureus	purple finch	(7,8)
Coccothraustes vespertinus	evening grosbeak	
Loxia curvirostra	red crossbill	
Loxia leucoptera	white-winged crossbill	
Pinicola enucleator	pine grosbeak	

Subfamily Cardinalinae

Cardinalis cardinalis	northern cardinal	2,7 (all)
Passerina amoena	lazuli bunting	
Passerina cyanea	indigo bunting	1,7 (all)
Pheucticus ludovicianus	rose-breasted grosbeak	1,2,3,7,9 (all)
Spiza americana	dickcissel	1,7 (all ex.8)

Subfamily Emberizinae

Ammodramus caudacutus nelsoni	**Nelson's sharp-tailed sp.**	
Ammodramus henslowii	**Henslow's sparrow**	1
Ammodramus leconteii	LeConte's sparrow	7 (all)
Ammodramus savannarum	grasshopper sparrow	1 (all)
Calamospiza melanocorys	lark bunting	
Calcarius lapponicus	lapland longspur	
Calcarius mccownii	McCown's longspur	
Calcarius pictus	Smith's longspur	
Chondestes grammacus	lark sparrow	5 (4,6)

Junco hyemalis	dark-eyed junco	
Melospiza georgiana	swamp sparrow	1,7,9 (all)
Melospiza lincolnii	Lincoln's sparrow	
Melospiza melodia	song sparrow	1,3,7,9 (all)
Passerculus sandwichensis	savannah sparrow	1 (all)
Passerella iliaca	fox sparrow	
Pipilo erythrophthalmus	rufous-sided towhee	
Plectrophenax nivalis	snow bunting	
Pooecetes gramineus	vesper sparrow	1,7 (all)
Spizella arborea	American tree sparrow	
Spizella pallida	clay-colored sparrow	1,7 (all)
Spizella passerina	chipping sparrow	1,4,7,9 (all)
Spizella pusilla	field sparrow	1,2,7 (all)
Zonotrichia albicollis	white-throated sparrow (7,8)	
Zonotrichia leucophrys	white-crowned sparrow	
Zonotrichia querula	Harris' sparrow	

Fishes of the Litchfield WMD
(from The Fishes of the Minnesota Region by Phillips et al.)
(**Bold** indicates listed species revised 1-24-00; cwlee; \fishes.00)

Family Petromyzontidae (Lamprey)		
	Ichthyomyzon castaneus	chestnut lamprey
Family Acipenseridae (sturgeon)		
	Acipenser fulvescens	**lake sturgeon**
	Scaphirhynchus platorhynchus	shovelnose sturgeon
Family Plyodontidae (paddlefish)		
	Polyodon spathula	**paddlefish**
Family Lepisosteidae (gar)		
	Lepisosteus osseus	long-nosed gar
	Lepisosteus platostomus	short-nosed gar
Family Amiidae (bowfin)		
	Amia calua	bowfin
Family Hiodontidae (mooneye)		
	Hioden alosoides	goldeye
	Hioden tergisus	mooneye
Family Clupeidae (herring)		
	Dorosoma cepedianum	gizzard shad
Family Anguillidae (freshwater eel)		
	Anguilla rostrata	American eel
Family Esocidae (pike)		
	Esox lucius	northern pike
	Esox masquinongy	muskellunge
Family Umbridae (mud minnow)		
	Umbra limi	central mud minnow
Family Salmonidae (salmon)		
	Salmo gairdneri	rainbow trout
	Salmo trutta	brown trout
Family Cyprinidae (minnows)		
	Campostoma anomalum	common stoneroller
	Carassius auratus	goldfish
	Ctenopharyngodon idella	grass carp
	Cyprinus carpio	carp
	Hybognathus hankinsoni	brassy minnow
	Hybognathus nuchalis	silver minnow
	Hybopsis aestivalis	speckled chub
	Hybopsis storeriana	silver chub
	Nocomis biguttatus	hornyhead chub
	Notemigonus crysoleucas	golden shiner

Notropis anogenus	**pugnose shiner**
Notropis atherinoides	emerald shiner
Notropis blennius	river shiner
Notropis cornutus	common shiner
Notropis dorsalis	bigmouth shiner
Notropis heterodon	black chin shiner
Notropis heterolepis	black nose shiner
Notropis hudsonius	spottail shiner
Notropis rubellus	rosyface shiner
Notropis spilopterus	spotfin shiner
Notropis stramineus	sand shiner
Notropis texanus	weed shiner
Notropis volucellus	mimic shiner
Phoxinus eos	northern redbelly dace
Phoxinus neogaeus	finescale dace
Pimephales notatus	bluntnose minnow
Pimephales promelas	fathead minnow
Rhinichthys atratulus	blacknose dace
Rhinichthys cataractae	longnose dace
Semotilus atromaculatus	creek chub
Semotilus margarita	pearl dace

Family Catostomidae (sucker)

Carpiodes carpio	river carpsucker
Carpiodes cyprinus	quillback
Carpiodes velifer	highfin carpsucker
Catostomus commersoni	white sucker
Hypentelium nigricans	northern hog sucker
Ictiobus cyprinellus	bigmouth buffalo
Moxostoma anisurum	silver redhorse
Moxostoma erythrurum	golden redhorse
Moxostoma macrolepidotum	shorthead redhorse

Family Ictaluridae (catfish)

Ictalurus melas	black bullhead
Ictalurus natalis	yellow bullhead
Ictalurus nebulosus	brown bullhead
Ictalurus punctatus	channel catfish
Noturus flavus	stonecat
Noturus gyrinus	tadpole mudtom
Pylodictis olivaris	flathead catfish

Family Percopsidae (trout-perch)

Percopsis omiscomaycus	trout-perch

Family Andidae (codfish)

Lota lota	burbot

Family Cyprinodontidae (killifish)

Fundulus diaphanus	banded killifish

Family Atherinidae (silverside)

Labidesthes sicculus	brook silverside

Family Gasterosteidae (sticklback)	
Culaea inconstans	brook stickleback
Family Cottidae (sculpin)	
Cottus bairdi	mottled sculpin
Family Percichthyidae (temperate bass)	
Morone chrysops	white bass
Family Centrarchidae (sunfish)	
Ambloplites rupestris	rock bass
Lepomis cyanellis	green sunfish
Lepomis gibbosus	pumpkinseed
Lepomis humilis	orange-spotted sunfish
Lepomis macrochirus	bluegill
Lepomis megalotis	longear sunfish
Micropterus dolomieui	smallmouth bass
Micropterus salmoides	largemouth bass
Pomoxis annularis	white crappie
Pomoxis nigromaculatus	black crappie
Family Percidae (perch)	
Ammocrypta clara	western sand darter
Etheostoma caeruleum	rainbow darter
Etheostoma exile	Iowa darter
Etheostoma flabellare	fantail darter
Etheostoma microperca	**least darter**
Etheostoma nigrum	johnny darter
Etheostoma zonale	banded darter
Perca flavescens	yellow perch
Percina caprodes	log perch
Percina maculata	blackside darter
Percina phoxocephala	slenderhead darter
Stizostedion canadense	sauger
Stizostedion vitreum	walleye
Family Scoaemidae (drum)	
Aplodinotus grunniens	freshwater drum

Mammals of the Litchfield WMD (63 species) cwlee 4-23-01
(from The Mammals of Minnesota by Hazard)
(**Bold** type indicates listed species)

Key

Order
Family
Scientific Name | common name | breeding counties (possible)

County numbers
1 = Kandiyohi
2 = McLeod
3 = Meeker
4 = Nicollet
5 = Renville
6 = Sibley
7 = Stearns
8 = Todd
9 = Wright

Order Polyprotodonta (opossums and allies)		
Family Didelphidae (new world opossums)		
Didelphis marsupialis	Opossum	1,4,6,7 (3,5)
Order Insectivora (insectivores)		
Family Soricidae (shrews)		
Blarina brevicauda	Short-tailed Shrew	All
Microsorex hoyi	Pygmy Shrew	(9)
Sorex arcticus	Arctic Shrew	7,8 (2,9)
Sorex cinereus	Masked Shrew	All (4,8)
Sorex palustris	N. Water Shrew	7 (9)
Family Talpidae (moles)		
Condylura cristata	Star-nosed Mole	(9)
Scalopus aquaticus	Eastern Mole	4,5,7 (8)
Order Chiroptera (bats)		
Family Vespertilionidae (vespertilionid bats)		
Eptesicus fuscus	Big Brown Bat	4,7 (9)
Lasionycteris noctivagans	Silver-haired Bat	1,9 (3,7)
Lasiurus borealis	Red Bat	(2,4)
Lasiurus cinereus	Hoary Bat	3 (7,9)
Myotis lucifugus	Little Brown Myotis	7,9 (4,6)
Myotis keeni septentrionalis	**Northern**(Keen's) **Myotis**	7 (9)
Pipistrellus subflavus	**Eastern Pipistrelle**	4,7 (9)
Order Lagomorpha (rabbits, hares and pikas)		
Family Leporidae (rabbits and hares)		
Lepus americanus	Varying or Snowshoe Hare	(7,8,9)
Lepus townsendio	White-tailed Jackrabbit	All (2,4,8,9)
Sylvilagus floridanus	Eastern Cottontail Rabbit	All (2,4)

Order Rodentia (rodents)		
Family Sciuridae (squirrels)		
Glaucomys sabrinus	Northern Flying Squirrel	(8,9)
Glaucomys volans	Southern Flying Squirrel	5,7,9 (4)
Marmata monax	Woodchuck	All (5,6)
Sciurus carolinensis	Eastern Gray Squirrel	All (3,6)
Sciurus niger	Eastern Fox Squirrel	All
Spermophilus franklinii	Franklin's Ground Squirrel	1,5,6,9 (2,7,8)
Spermophilus tridecemlineatus	13-lined Ground Squirrel	All
Tamias striatus	Eastern Chipmunk	All (4,6)
Tamiasciurus hudsonicus	Red Squirrel	All (3)
Family Geomyidae (pocket gophers)		
Geomys bursarius	Plains Pocket Gopher	All (2,4,6,9)
Family Heteromyidae (pocket mice and kangaroo rats)		
Perognathus flavescens	**Plains Pocket Mouse**	(7,9)
Family Castoridae (beaver)		
Castor canadensis	Beaver	All (5)
Family Cricetidae (voles, lemmings, new world rats and mice)		
Subfamily Cricetinae (new world rats and mice)		
Onychomys leucogaster	Northern Grasshopper Mouse	1,5
Peromyscus leucopus	White-footed Mouse	All
Peromyscus maniculatus bairdii	Prairie Deer Mouse	All (5)
Peromyscus maniculatus gracilis	Woodland Deer Mouse	(7,8)
Reithrodontomys megalotis	Western Harvest Mouse	5 (4,9)
Subfamily Microtinae (voles and lemmings)		
Clethrionomys gapperi	Southern Red-backed Vole	1,5,7,8,9 (3)
Microtus ochrogaster	**Prairie Vole**	(9)
Microtus pennsylvanicus	Meadow Vole	All
Ondatra zibethica	Muskrat	All
Synaptomys cooperi	Southern Bog Lemming	(9)
Family Muridae (old world rats and mice)		
Mus musculus	House Mouse	All
Rattus norvegicus	Norway Rat	All
Family Zapodidae (jumping mice)		
Napaeozapus insignis	Woodland Jumping Mouse	(8)
Zapus hudsonius	Meadow Jumping Mouse	All (5)
Family Erithizontidae (arboreal, or new world, porcupines)		
Erithizon dorsatum	Porcupine	(8)
Order Carnivora (carnivores)		
Family Canidae (dogs)		
Canis latrans	Coyote	All
Canis lupus	**Timber (Gray) Wolf**	1,8 (?)
Urocyon cinereoargenteus	Gray Fox	All
Vulpes fulva	Red Fox	All

Family Ursidae (bears)		
Ursus americanus	Black Bear	1,7,8
Family Procyonidae (raccoons and allies)		
Procyon lotor	Raccoon	All
Family Mustelidae (weasels and allies)		
Lutra canadensis	River Otter	7,8 (?)
Mephitis mephitis	Striped Skunk	All
Mustela erminea	Short-tailed Weasel	All (2,6)
Mustela frenata	Long-tailed Weasel	1,4,9 (All)
Mustela nivalis	**Least Weasel**	5 (1)
Mustela vison	Mink	All
Spilogale putorius	**Spotted Skunk**	All
Taxidea taxus	Badger	All
Family Felidae (cats)		
Felis concolor	**Cougar (Mountain Lion)**	?
Lynx canadensis	**Lynx**	(8)
Lynx rufus	Bobcat	9 (7,8)
Order Artiodactyla (even-toed ungulates)		
Family Cervidae (deer)		
Alces alces	Moose	7,(8) (all; brainworm)
Odocoileus hemionus	Mule Deer	(7,8)
Odocoileus virginiana	White-tailed Deer	All
Domestic and Feral Mammals		
Bison bison	Buffalo	
Bos taurus	Cow	
Canis familiaris	Dog	
Capra hircus	Goat	
Cavia porcellus	Guinea Pig	
Cervus dama	Fallow Deer (other deer species are kept in “deerparks”)	
Cervus elaphus	Elk	
Chinchilla sp.	Chinchilla	
Equus caballus	Horse	
Felis catus	House Cat	
Meriones and other genera	Gerbils	
Mesocricetus auratus	Golden Hamster	
Mus musculus	Laboratory Mouse	
Mustela putorius	Ferret	
Mustela vison	Ranch Mink	
Mycastor coypus	Nutria	
Ovis aries	Sheep	
Oryctolagus cuniculus	Domestic Rabbit	
Rattus norvegicus	Laboratory Rat	
Sus scrofa	Pig	
Vulpes vulpes	Fur Farm Fox	

Reptiles of the Litchfield WMD (21 species, 2 subspecies)
(from Amphibians and Reptiles Native to Minnesota by Oldfield and Moriarity)
(**Bold** indicates listed species) revised 1-24-00; cwlee; \reptiles.00)

Key
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Order Testudines (turtles and tortoises)		
Family Chelydridae (snapping turtles)		
Chelydra serpentina serpentina	**snapping turtle**	All (6)
Family Emydidae (box and water turtles)		
Chrysemys picta belli	Western painted turtle	All (5,6)
Emydoidea blandingii	**Blanding's turtle**	7,8,9 (3,4)
Graptemys geographica	common map turtle	7,9 (4,6)
Graptemys pseudogeographica	**false map turtle**	4(6,9)
Family Trionychidae (softshell turtles)		
Apalone mutica mutica	**midland smooth softshell**	9 (4,6)
Apalone spiniferus hartwegi	western spiny softshell	1,2,3,4,5,7,9 (6,8)
Order Squamata (lizards and snakes)		
Suborder Lacertilia (lizards)		
Family Scincidae (skinks)		
Eumeces septentrionalis septentrionalis	northern prairie skink	All (3,6,7)
Eumeces fasciatus	**five-lined skink**	5 (4)
Suborder Serpentes (snakes)		
Family Colubridae (colubrids)		
Coluber constrictor flaviventris	**eastern yellowbelly racer**	(4,6,9)
Elaphe vulpina vulpina	western fox snake	4,5 (6,9)
Heterodon nasicus nasicus	**western hognose snake**	1 (7,9)
Heterodon platyrhinos	eastern hognose snake	7,8,9 (3)
Lampropeltis triangulum triangulum	eastern milk snake	4,5,6 (2,9)
Nerodia sipedon sipedon	northern water snake	4,9 (6)
Opheodrys vernalis	smooth green snake	1 (5,7,8,9)
Pituophis catenifer sayi	**bullsnake**	4,5,6 (2,6,9)
Storeria dekayi texana	Texas brown snake	1,2,4,6,7,9 (3)
Storeria occipitomaculata occipitomaculata	northern redbelly snake	All (2,3,8)
Storeria occipitomaculata pahasapae	black hills redbelly snake	
Thamnophis radix haydeni	western plains garter snake	All
Thamnophis sirtalis parietalis	red-sided garter snake	All (west)
Thamnophis sirtalis sirtalis	eastern garter snake	All

Plants of the Litchfield WPAs 468 species

(cwlee; revised 9-3-01)

Species in **bold** type are state or federal listed species
Species in *italics* are non-native species

Abutilon theophrasti	*Velvet-leaf*
Acer ginnala	*Maple, Siberian*
Acer negundo	Boxelder
Acer saccharinum	Maple, Silver
Acer saccharum	Maple, Sugar
Achillea millefolium ssp. lanulosa	Yarrow
Acorus calamus	Flag, Sweet
Actaea rubra	Baneberry, Red
Agalinis auriculata	Foxglove, Eared False
Agalinis tenuifolia	False Foxglove, Tenderleaf
Agastache foeniculum	Hyssop, Fragrant Giant
Agoseris glauca	Dandelion, False
Agrimonia gryposepala	Agrimony, Hooked
Agropyron caninum *ssp.majus v.unilaterale*	Wheatgrass, Slender
Agropyron elongatum	*Wheatgrass, Tall*
Agropyron intermedium	*Wheatgrass, Intermediate*
Agropyron smithii	Wheatgrass, Western
Agrostis scabra	Grass, Tickle
Agrostis stolonifera	*Redtop*
Alisma triviale	Plantain, Large-flowered Water
Allium stellatum	Onion, Wild
Allium tricoccum	Leek, Wild
Alnus incana ssp.rugosa	Alder, Speckled
Alopecurus	Foxtail
Amaranthus graecizans	Pigweed, Prostrate
Amaranthus retroflexus	Pigweed, Rough
Ambrosia artemisifolia	Ragweed, Common
Ambrosia psilostachya	Ragweed, Western
Ambrosia trifida	Ragweed, Giant
Amelanchier humilis	Serviceberry, Low
Amorpha canescens	Leadplant
Amorpha fruticosa	Indigo, False
Amorpha nana	Indigo, Dwarf Wild
Amphicarpaea bracteata	Hog Peanut
Andropogon gerardii	Bluestem, Big
Anemone canadensis	Windflower
Anemone cylindrica	Thimbleweed
Anemone patens	Pasque Flower
Anemone quinquefolia	Anemone, Wood
Anemone virginiana	Anemone, Tall
Anemonella thalictroides ?	Anemone, Rue
Antennaria neglecta	Pussytoes, Field
Apocynum androsaemifolium	Dogbane, Spreading
Apocynum cannabinum	Dogbane, Indian Hemp
Aquilegia canadensis	Columbine, Wild

Aralia racemosa	Spikenard
Arctium minus	*Burdock*
Arisaema triphyllum	Jack-in-the-Pulpit
Aristida	Three-awn
Artemisia absinthium	*Wormwood*
Artemisia campestris ssp.caudata	Sagewort, Western
Artemisia dracunculus	Wormwood, Silky
Artemisia frigida	Sagewort, Prairie
Artemisia ludoviciana	Sage, White
Asclepias incarnata	Milkweed, Swamp
Asclepias speciosa	Milkweed, Showy
Asclepias syriaca	Milkweed, Common
Asclepias verticillata	Milkweed, Whorled
Asclepias viridiflora	Milkweed, Green
Asparagus officinalis	*Asparagus*
Aster ericoides	Aster, Heath
Aster hesperius ?	Aster, Marsh
Aster laevis	Aster, Smooth Blue
Aster lanceolatus	Aster, Eastern Lined
Aster lateriflorus	Aster, White Woodland
Aster novae-angliae	Aster, New England
Aster oblongifolius	Aster, Aromatic
Aster oolentangiensis	Aster, Azure
Aster pilosus ?	Aster, Hairy
Aster puniceus ssp firmus	Aster, Shining
Aster puniceus ssp puniceus	Aster, Red-stalked
Aster sagittifolius	Aster, Arrow-leaved
Aster sericeus	Aster, Silky
Aster umbellatus	Aster, Flat-top
Astragalus adsurgens	Milkvetch, Standing
Astragalus agrestis	Milkvetch, Field
Astragalus canadensis	Milkvetch, Canada
Astragalus crassicarpus	Groundplum
Avena sativa	*Oats*
Berteroa incana	*Alyssum, Hoary False*
Betula glandulosa	Birch, Bog
Betula papyrifera	Birch, Paper
Bidens cernua	Beggartick, Nodding
Boehmeria cylindrica	Nettle, Wood
Botrychium virginianum	Fern, Rattlesnake
Bouteloua curtipendula	Grama, Sideoats
Bouteloua gracilis	Grama, Blue
Bouteloua hirsuta	Grama, Hairy
Brassica kaber	Charlock
Bromus ciliatus	Brome, Fringed
Bromus inermis	*Brome, Smooth*
Bromus japonicus	*Brome, Japanese*
Bromus kalmii	Brome, Kalm's
Calamagrostis canadensis	Bluejoint
Calamovilfa longifolia	Sandreed, Prairie
Caltha palustris	Marigold, Marsh
Calylophus serrulatus	Primrose, Plains Yellow
Calystegia sepium v.angulata	Bindweed, Hedge
Campanula aparinoides	Harebell, Marsh

Campanula rapunculoides	*Harebell, Creeping*
Campanula rotundifolia	Harebell
Cannabis sativa	*Hemp*
Capsella bursa-pastoris	*Shepherd's Purse*
Caragana arborescens	*Pea-shrub, Siberian*
Carduus acanthoides	*Thistle, Plumeless*
Carex	Sedge
Carex bicknellii	Sedge, Bicknell's
Carex buxbaumii	Sedge, Brown Bog
Carex meadii	Sedge, Mead's
Carex stricta	Sedge, Tussock
Carex tetanica	Sedge, Rigid
Carex utriculata	Sedge, Beaked
Castilleja sessiliflora	Paintbrush, Downy
Caulophyllum thalictroides	Cohosh, Blue
Celastrus scandens	Bittersweet, American
Celtis occidentalis	Hackberry
Centaurea maculosa	*Knapweed, Spotted*
Cerastium vulgatum	*Chickweed, Common Mouseear*
Chenopodium	Goosefoot
Chenopodium album	*Lamb's Quarters*
Chenopodium gigantospermum	Goosefoot, Maple-leaved
Chrysanthemum leucanthemum	*Chrysanthemum*
Chrysopsis villosa	Goldenaster
Cicuta maculata	Hemlock, Common Water
Circaea lutetiana ssp.canadensis	Nightshade, Enchanter's
Cirsium altissimum	Thistle, Tall
Cirsium arvense	*Thistle, Canada*
Cirsium discolor	Thistle, Field
Cirsium flodmanii	Thistle, Flodman's
Cirsium hillii	Thistle, Hill's
Cirsium muticum	Thistle, Swamp
Cirsium vulgare	*Thistle, Bull*
Comandra umbellata	Toad-flax, Bastard
Convolvulus arvensis	*Bindweed, Field*
Conyza canadensis	Horseweed
Coreopsis palmata	Tickseed, Stiff
Cornus foemina	Dogwood, Gray
Cornus stolonifera	Dogwood, Red Osier
Corylus americana	Hazelnut
Crataegus	Hawthorn
Cryptotaenia canadensis	Honewort
Cyperus	Flatsedge
Cypripedium calceolus v. parviflorum	Lady's-slipper, Small Yellow
Cypripedium candidum	Lady's-slipper, Small White
Cypripedium reginae	Lady's-slipper, Showy
Dactylis glomerata	*Grass, Orchard*
Dalea candida	Prairieclover, White
Dalea purpurea	Prairieclover, Purple
Dalea villosa	Prairieclover, Silky
Daucus carota	*Carrot, Wild*
Delphinium virescens	Larkspur, Prairie
Desmanthus illinoensis	Bundleflower, Illinois
Desmodium canadense	Tick-trefoil, Canada

Dichanthelium leibergii	Panicgrass, Leiberg's
Dichanthelium lineriafolium	Panicgrass, Slimleaf
Dichanthelium oligosanthes scribnerianum	Panicgrass, Scribner's
Dichanthelium wilcoxianum	Panicgrass, Fall
Digitaria ischaemum	*Crabgrass, Smooth*
Dirca palustris ?	Leatherwood
Echinacea pallida v. angustifolia	Coneflower, Purple
Echinochloa crusgalli	*Grass, Barnyard*
Echinocystis lobata	Cucumber, Wild
Elaeagnus angustifolia	*Olive, Russian*
Eleocharis	Spikerush
Elodea	Waterweed
Elymus canadensis	Wildrye, Canada
Elymus trachycalus	Wildrye,
Elytrigia repens	*Quackgrass*
Equisetum arvense	Horsetail, Field
Equisetum (branched)	Horsetail
Equisetum hymenale	Horsetail, Common
Eragrostis	Lovegrass
Erigeron philadelphicus	Fleabane, Philadelphia
Erigeron strigosus	Fleabane, Daisy
Eupatorium maculatum	Joe-pye Weed
Eupatorium perfoliatum	Boneset
Eupatorium purpureum v.holzingeri ?	Joe-Pye Weed, Sweet
Euphorbia esula	*Spurge, Leafy*
Euthamia graminifolia	Goldenrod, Grass-leaved
Festuca arundinacea	*Fescue, Tall*
Fragaria virginiana	Strawberry, Wild
Fraxinus pennsylvanica	Ash, Green
Galearis spectabilis	Orchis, Showy
Galium aparine	Bedstraw, Catchweed
Galium boreale	Bedstraw, Northern
Gentiana andrewsii	Gentian, Closed
Gentiana puberulenta	Gentian, Downy
Gentianopsis crinita	Gentian, Fringed
Geranium maculatum	Cranesbill, Wild
Geum aleppicum	Avens, Yellow
Geum triflorum	Prairie Smoke
Glyceria	Mannagrass
Glycyrrhiza lepidota	Licorice, Wild
Gnaphalium obtusifolium	Cudweed, Fragrant
Grindelia squarrosa	Gumweed, Curly-top
Habenaria hyperborea	Orchid, Northen Green
Hedeoma hispidum	Pennyroyal, Rough False
Helenium autumnale	Sneezeweed
Helianthemum bicknellii	Frostweed
Helianthus annuus	Sunflower, Annual
Helianthus divaricatus	Sunflower, Woodland
Helianthus giganteus	Sunflower, Swamp
Helianthus grosseserratus	Sunflower, Sawtooth
Helianthus maximilianii	Sunflower, Maximilian
Helianthus rigidus	Sunflower, Stiff
Helianthus tuberosa	Jerusalem Artichoke

Heliopsis helianthoides	Oxe-eye
Hemerocallis fulva	*Daylily*
Heracleum lanatum	Parsnip, Cow
Hesperis matronalis	*Dame's Rocket*
Heuchera richardsonii	Alumroot
Hieracium canadense	Hawkweed, Canada
Hordeum jubatum	Barley, Foxtail
Hydrophyllum virginianum	Waterleaf, Virginia
Hypericum pyramidatum	St. John's-wort, Great
Hypoxis hirsuta	Stargrass, Yellow
Hystrix patula	Grass, Bottlebrush
Impatiens capensis	Touch-me-not, Spotted
Impatiens pallida	Touch-me-not, Pale
Ipomoea	*Morning-glory*
Iris versicolor	Bluflag
Isopyrum biternatum ?	Anemone, False Rue
Iva xanthifolia	Marsh Elder
Juglans cinera	Butternut
Juglans nigra	Walnut, Black
Juncus	Rush
Juniperus virginiana	Cedar, Red
Koeleria macrantha	Junegrass
Kuhnia eupatoroides	Boneset, False
Lactuca canadensis	Lettuce, Wild
Lactuca oblongifolia	Lettuce, Wild Blue
Lactuca serriola	Lettuce, Prickly
Lappula	Stickseed
Larix laricina	Tamarack
Lathyrus palustris	Vetchling, Marsh
Lathyrus venosus	Vetchling, Bushy
Lemna minor	Duckweed, Common
Leonurus cardiaca	*Motherwort*
Lepidium densiflorum	Peppergrass,
Lespedeza capitata	Bush-clover, Round-headed
Liatris aspera	Blazing Star, Tall
Liatris cylindrica	Blazing Star, Few-headed
Liatris ligulistylis	Blazing Star, N. Plains
Liatris punctata	Blazing Star, Dotted
Liatris pycnostachya	Blazing Star, Prairie
Lilium michiganense	Lily, Turk's Cap
Lilium philadelphicum	Lily, Wood
Linaria vulgaris	*Butter and Eggs*
Linum sulcatum	Flax, Grooved
Lithospermum canescens	Puccoon, Hoary
Lithospermum incisum	Puccoon, Narrowleaf
Lobelia kalmii	Lobelia, Kalm's
Lobelia siphlitica	Lobelia, Great Blue
Lobelia spicata	Lobelia, Palespike
Lonicera	Honeysuckle
Lotus corniculatus	*Trefoil, Bird's-foot*
Lycopus americanus	Bugleweed, American
Lycopus asper	Bugleweed, Rough
Lygodesmia juncea	Skeletonweed
Lysimachia ciliata	Loosestrife, Fringed

Lysimachia quadriflora	Loosestrife, Whorled
Lysimachia thyrsiflora	Loosestrife, Tufted
Lythrum alatum	Loosestrife, Winged
Lythrum salicaria	*Loosestrife, Purple*
Maianthemum canadense	Bunchberry
Malva neglecta	*Mallow, Common*
Matricaria matricarioides	*Weed, Pineapple*
Medicago lupulina	*Medick, Black*
Medicago sativa	*Alfalfa*
Melilotus alba	*Sweet Clover, White*
Melilotus officinalis	*Sweet Clover, Yellow*
Menispermum canadense	Moonseed
Mentha arvensis	Mint, Field
Mimulus ringens	Monkeyflower
Mirabilis nyctaginea	Four-o-clock, Wild
Monarda fistulosa	Bergamot, Wild
Morus rubra	*Mulberry, Red*
Muhlenbergia	Muhly,
Muhlenbergia cuspidata	Muhly, Plains
Muhlenbergia mexicana	Muhly, Mexican
Nepeta cataria	*Catnip*
Nuphar lutea	Water Lily, Yellow
Nymphaea tuberosa	Water Lily, White
Oenothera biennis	Evening Primrose, Common
Onosmodium molle ssp. occidentale	Gromwell, False
Osmorhiza	Aniseroot
Ostrya virginiana	Ironwood
Oxalis stricta	Wood Sorrel, Yellow
Oxalis violacea	Wood Sorrel, Violet
Oxytropis lambertii	Locoweed, Purple
Panicum virgatum	Switchgrass
Parthenocissus quinquefolia	Ivy, Five-leaved
Pastinaca sativa	*Parsnip, Wild*
Pedicularis canadensis	Lousewort, Common
Pedicularis lanceolata	Lousewort, Swamp
Penstemon gracilis	Beardtongue, Slender
Phalaris arundinacea	Grass, Reed Canary
Phalaris canariensis	*Grass, Canary*
Phleum pratense	*Timothy*
Phlox pilosa	Phlox, Prairie
Phragmites australis	Reed, Common
Phryma leptostachya	Lopseed
Physalis heterophylla	Groundcherry, Clammy
Physalis virginiana	Groundcherry, Virginia
Picea abies	*Spruce, Norway*
Picea glauca	Spruce, White
Pilea pumila	Clearweed
Pinus banksiana	Pine, Jack
Pinus resinosa	Pine, Red
Pinus strobus	Pine, White
Pinus sylvestris	*Pine, Scotch*
Plantago major	*Plantain, Common*
Poa compressa	*Bluegrass, Canada*
Poa palustris	Bluegrass, Fowl

Poa pratensis	*Bluegrass, Kentucky*
Polygala senega	Snakeroot, Seneca
Polygonatum biflorum	Solomon's Seal
Polygonum	Smartweed,
Polygonum amphibium	Smartweed, Swamp
Polygonum aviculare	Knotweed
Populus deltoides	Cottonwood
Populus tremuloides	Aspen, Quaking
Portulaca oleracea	*Purslane, Common*
Potamogeton	Pondweed
Potentilla argentea	*Cinquefoil, Silvery*
Potentilla arguta	Cinquefoil, Tall
Potentilla norvegica	Cinquefoil, Norwegian
Potentilla recta	*Cinquefoil, Sulfer*
Prenanthes alba	Rattlesnake-root, White
Prenanthes racemosa	Rattlesnake-root, Glaucous
Prunella vulgaris	Self-heal
Prunus americana	Plum, Wild
Prunus serotina	Cherry, Black
Prunus virginiana	Cherry, Choke
Psoralea argophylla	Scurfpea, Silverleaf
Psoralea esculenta	Scurfpea, Breadroot
Pycnanthemum virginianum	Mint, Mountain
Pyrus malus	*Apple*
Quercus ellipsoidales	Oak, Pin
Quercus macrocarpa	Oak, Bur
Ranunculus acris	*Buttercup, Tall*
Ranunculus flabellaris	Buttercup, Threadleaf
Ranunculus rhomboideus	Buttercup, Prairie
Ratibida pinnata	Coneflower, Gray-headed
Rhamnus cathartica	*Buckthorn, Common*
Rhus glabra	Sumac, Smooth
Rhus typhina	Sumac, Staghorn
Rhynchospora	Beak-rush
Ribes americanum	Currant, Wild Black
Ribes cynosbati	Gooseberry
Rosa	Rose,
Rosa acicularis sayi	Rose, Prickly Wild
Rosa arkansana	Rose, Prairie Wild
Rubus idaeus	Raspberry, Red
Rudbeckia hirta	Black-eyed Susan
Rudbeckia laciniata	Golden Glow
Rumex crispus	*Dock, Curly*
Sagittaria latifolia	Arrowhead, Common
Salix amygdaloides	Willow, Peachleaf
Salix bebbiana	Willow, Beaked
Salix discolor	Willow, Pussy
Salix eriocephala	Willow, Diamond
Salix exigua interior	Willow, Sandbar
Salix humilis	Willow, Prairie
Salix petiolaris	Willow, Meadow
Salsola iberica	*Thistle, Russian*
Sambucus racemosa ssp.pubens	Elderberry, Stinking
Sanguinaria canadensis	Bloodroot

Sanicula canadensis	Snakeroot, Canada
Saponaria officinalis	*Soapwort*
Saxifraga pennsylvanica	Saxifrage, Swamp
Schizachyrium scoparium	Bluestem, Little
Scirpus	Bullrush
Scirpus acutus	Bulrush, Hardstem
Scirpus cyperinus	Grass, Wool
Scirpus fluviatilis	Bulrush, River
Scirpus validus	Bulrush, Softstem
Scrophularia lanceolata	Figwort
Scutellaria galericulata	Skullcap, Marsh
Scutellaria parvula	Skullcap, Leonard's Small
Secale cereale	Rye
Senecio pauperculus	Ragwort, Balsam
Senecio plattensis	Ragwort, Prairie
Senecio pseudoaureus v.semicordatus	Groundsel, Falsegold
Setaria faberi	*Foxtail, Giant*
Setaria glauca	*Grass, Pigeon*
Setaria viridis	*Foxtail, Green*
Silene vulgaris	*Campion, Bladder*
Sisyrinchium campestre	Blue-eyed Grass, White
Sisyrinchium montanum	Blue-eyed Grass, Strict
Sium suave	Parsnip, Water
Smilacina racemosa	Spikenard, False
Smilacina stellata	Spikenard
Smilax herbacea v.lasioneura	Carrion-flower
Solanum dulcamara	*Nightshade, Climbing*
Solanum nigrum	Nightshade, Black
Solidago altissima	Goldenrod, Canada
Solidago canadensis v. canadensis	Goldenrod, Canada
Solidago flexicaulis	Goldenrod, Zigzag
Solidago gigantea	Goldenrod, Late
Solidago juncea	Goldenrod, Early
Solidago missouriensis	Goldenrod, Prairie
Solidago nemoralis	Goldenrod, Gray
Solidago ptarmicoides	Aster, Sneezewort
Solidago riddellii	Goldenrod, Riddell's
Solidago rigida	Goldenrod, Rigid
Solidago speciosa	Goldenrod, Showy
Sonchus arvensis	Sow Thistle, Field
Sonchus asper	*Sow Thistle, Prickly*
Sorghastrum nutans	Grass, Indian
Sparganium eurycarpum	Burreed, Giant
Spartina pectinata	Cordgrass, Prairie
Sphagnum	Moss
Spiraea alba	Meadow-sweet
Sporobolus cryptandrus	Dropseed, Sand
Sporobolus heterolepis	Dropseed, Prairie
Sporobolus neglectus	Grass, Poverty
Stachys palustris	Hedge-nettle
Stellaria	Chickweed
Stipa comata	Grass, Needle-and-thread
Stipa spartea	Grass, Porcupine
Stipa viridula	Grass, Green Needle

Streptopus roseus ?	Twisted-stalk
Symphoricarpos occidentalis	Wolfberry
Syringa vulgaris	*Lilac*
Tanacetum vulgare	*Tansy, Common*
Taraxacum officinale	*Dandelion, Common*
Teucrium canadense	Germander, American
Thalictrum dasycarpum	Meadow Rue, Tall
Thalictrum dioicum	Meadow Rue, Early
Thuja occidentalis	Cedar, White
Tilia americana	Basswood
Toxicodendron rydbergii	Ivy, Poison
Tradescantia occidentalis	Spiderwort, Prairie
Tragopogon dubius	*Goat's Beard*
Trifolium arvense	*Clover, Rabbit-foot*
Trifolium pratense	*Clover, Red*
Trifolium repens	*Clover, White*
Trillium cernuum	Trillium, Nodding
Triticum aestivum	*Wheat*
Typha angustifolia	Cattail, Narrowleaf
Typha glauca	Cattail, Hybrid
Typha latifolia	Cattail, Broadleaf
Ulmus americana	Elm, American
Ulmus pumila	*Elm, Siberian*
Urtica dioica	Nettle, Stinging
Utricularia	Bladderwort
Uvularia grandiflora	Bellwort, Large
Verbascum thapsus	*Mullein, Common*
Verbena hastata	Vervain, Blue
Verbena stricta	Vervain, Hoary
Verbena urticifolia	Vervain, Nettle-leaf
Vernonia fasciculata v.corymbosa	Ironweed
Veronicastrum virginicum	Root, Culver's
Viburnum lentago	Nannyberry
Vicia americana v.americana	Vetch, American
Viola palmata var. pedatifida	Violet, Prairie
Viola pedata	Violet, Bird's-foot
Viola pubescens	Violet, Downy Yellow
Viola sororia	Violet, Downy Blue
Vitis riparia	Grape, River-bank
Xanthium strumarium	Cocklebur
Zanthoxylum americanum	Ash, Prickly
Zea mays	*Corn*
Zigadenus elegans	Camass, White
Zizia aptera	Alexanders, Golden
Zizia aurea	Alexanders, Golden

Appendix D: National Wetlands Inventory – Minnesota Counties Wetland Types

National Wetlands Inventory – Minnesota Counties Wetland Types

County	Total Wetland (small, shallow wetlands)	Palustrine Acres	%	Riverine Acres	%	Lacustrine Acres (Lakes and deep water reservoirs)	%
Becker	149,248	73,056	34	260	<1	75,932	35
Big Stone	59,347	44,475	70	71	<1	14,801	23
Blue Earth	23,577	14,542	48	2,723	9	6,312	21
Brown	16,498	11,431	52	1,516	7	3,551	16
Chippewa	11,401	7,843	52	853	6	2,705	18
Clay	30,483	25,600	68	916	2	3,967	10
Clearwater	104,255	87,146	47	452	<1	16,657	9
Cottonwood	12,700	7,078	50	506	4	5,116	36
Douglas	95,323	44,819	42	203	<1	50,301	47
Faribault	9,975	5,702	51	806	7	3,467	31
Freeborn	18,681	9,762	50	192	1	8,727	44
Grant	35,696	19,265	50	97	<1	16,334	42
Jackson	22,129	11,783	50	734	3	9,612	41
Kandiyohi	82,499	44,939	48	57	<1	37,503	40
Kittson	49,981	49,094	69	352	1	535	1
Lac qui Parle	26,751	18,653	59	594	2	7,504	24
LeSueur	42,417	27,703	61	580	1	14,134	31
Lincoln	20,988	14,557	66	3	0	6,428	29
Lyon	16,105	11,930	64	11	<1	4,164	22
Mahnomen	48,206	34,050	51	476	1	13,680	20
Marshall	112,892	102,291	50	1,301	1	9,300	5
Martin	21,434	10,503	45	24	<1	10,907	46
McLeod	37,088	29,760	75	50	<1	7,278	18
Meeker	65,808	44,874	58	416	1	20,518	26
Murray	21,703	13,094	56	9	0	8,600	37
Nicollet	20,949	15,200	57	1,340	5	4,409	17
Nobles	10,946	6,984	60	46	1	3,916	33
Norman	14,176	12,465	60	1,544	7	167	1
Otter Tail	261,870	114,210	33	1,132	1	146,538	43
Pennington	22,759	21,097	67	1,253	4	409	1
Pipestone	4,760	4,520	87	88	2	152	3
Polk	78,325	60,479	57	2,608	2	15,238	14
Pope	72,474	43,011	50	55	<1	29,408	34

National Wetlands Inventory – Minnesota Counties Wetland Types

County	Total Wetland (small, shallow wetlands)	Palustrine Acres	%	Riverine Acres	%	Lacustrine Acres (Lakes and deep water reservoirs)	%
Red Lake	9,321	7,832	54	1,450	10	39	0.5
Redwood	8,204	7,171	66	728	7	305	3
Renville	17,856	14,937	72	713	3	2,206	11
Rock	3,383	2,422	59	848	21	113	3
Roseau	133,897	131,076	37	633	<1	2,188	1
Sibley	27,241	21,758	71	55	2	5,428	18
Steele	6,344	5,293	69	99	1	952	12
Stevens	26,832	19,610	68	304	1	6,918	24
Swift	24,752	19,695	64	449	1	4,608	15
Traverse	28,009	20,828	71	211	1	6,970	24
Waseca	17,150	12,416	67	9	<1	4,725	25
Watonwan	7,033	4,830	20	103	1	2,100	23
Wilkin	11,568	10,201	79	1,201	9	166	1
Yellow Medicine	11,696	9,547	65	632	4	1,517	10
TOTALS	1,954,730	1,329,532		28,703		596,495	

Appendix E: Regional Conservation Priority List for the Mississippi River/Tallgrass Prairie Ecosystem

Mississippi Headwaters/Tall-grass Prairie Ecosystem RCPs

	Forests	Grasslands	Wet meadow	Lacustrine	Reservoirs	Near shore	Palustrine	Riverine	Swamps	Barrens	Beaches	Dunes	Islands	Coniferous	Deciduous	Early succ	Mid succ	Mat bottom	Upland	Mature upl	Sh/scrub	Shrublands
Gray wolf																						
Common loon				X																		
Double-crested cormorant								X		X			X									
American bittern		X					X															
Least bittern							X															
Snow Goose				X			X															
Canada goose - Giants				X			X															
Canada goose - Urban giants				X			X															
Canada goose - EPP				X			X															
Trumpeter swan				X			X	X														
Wood duck	X						X	X										X				
Mallard	X	X					X											X				
Northern pintail		X					X															
Blue-winged teal		X					X															
Canvasback				X			X	X														
Lesser scaup				X			X	X														
Bald eagle	X			X				X														
Peregrine Falcon	X	X					X	X	X	X	X		X									
Northern goshawk	X																			X		
Red-shouldered hawk	X																	X		X		
Northern harrier		X					X															
Short-eared owl		X																				
Yellow rail			X				X															

Mississippi Headwaters/Tall-grass Prairie Ecosystem RCPs

	Forests	Grasslands	Wet meadow	Lacustrine	Reservoirs	Nearshore	Palustrine	Riverine	Swamps	Barrens	Beaches	Dunes	Islands	Coniferous	Deciduous	Early succ	Mid succ	Mat bottom	Upland	Mature upl	Sh/scrub	Shrublands
Upland sandpiper		X																				
American woodcock	X		X				X									X					X	
Common tern - Great Lakes				X						X	X		X									
Black tern				X			X															
Loggerhead shrike		X																				X
Sedge wren			X				X															
Wood thrush	X																		X			
Veery	X																X					
Golden-winged warbler	X															X						X
Chestnut-sided warbler	X															X						X
Bobolink		X																				
Eastern meadowlark		X																				
Red-headed woodpecker	X														X							
Northern flicker	X														X							
Olive-sided flycatcher	X													X								
Dickcissel		X																				
Field sparrow		X																				X
Grasshopper sparrow		X																				
Brook trout - Inland population								X														
Lake sturgeon - Inland pop								X														
Shovelnose sturgeon								X														
Walleye - 1836 Ceded Territory				X		X		X														
Muskellunge - 1836				X				X														
Blue sucker								X														

Mississippi Headwaters/Tall-grass Prairie Ecosystem RCPs

	Forests	Grasslands	Wet meadow	Lacustrine	Reservoirs	Nearshore	Palustrine	Riverine	Swamps	Barrens	Beaches	Dunes	Islands	Coniferous	Deciduous	Early succ	Mid succ	Mat bottom	Upland	Mature upl	Sh/scrub	Shrublands
Hellbender								X														
Black sandshell								X														
Elktoe								X														
Mapleleaf				X	X			X														
Monkeyface								X														
Round pigtoe								X														
Threeridge								X														
Winged mapleleaf								X														
Zebra mussel				X				X														
Rusty crayfish				X				X														
Karner blue butterfly	X									X		X			X							
Prairie bush-clover		X																				
Western prairie fringed orchid							X															

Appendix F: Compatibility Determinations

DRAFT COMPATIBILITY DETERMINATION

Use: Permit Archeological Investigations

Refuge Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authority(ies): Waterfowl Production Areas – Migratory Bird Hunting Stamp Act of March 16, 1934 as amended by section 3 of the Act of August 1, 1958 (72 Stat. 486, 16 U.S.C. sec. 716 d(c), authorized the Secretary of Interior to acquire small wetland or pothole areas suitable as Waterfowl Production Areas.

FmHA fee title transfer properties – Consolidated Farm and Rural Development Act 7 U.S.C. 2002.

Refuge Purpose(s): Waterfowl Production Areas – "...as Waterfowl Production Areas" subject to "...all of the provisions of such Act [Migratory Bird Conservation Act]....except the inviolate sanctuary provisions..." and "...for any other management purpose, for migratory birds".

FmHA fee title transfer properties - "for conservation purposes..."

National Wildlife Refuge System Mission: "The Mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

Description of Use: Permitted archeological investigations on the Minnesota Wetland Management Districts, Minnesota, are those requested by archeologists who are not performing the investigation for District management purposes (e.g., not for Section 106 of the National Historic Preservation Act). Rather, permitted archeologists are pursuing their own or institutional research or are working for other parties that will be conducting activities on FWS land, or as requested by the Governor of Minnesota, and similar third party activities on lands of the National Wildlife Refuge System. Permitted investigations can occur at any time of the year although usually not during the winter. Investigations may be as short as a few hours or go on for months, depending on the research objective. These permitted investigations occur on the District because the District is where the resource is found or where the resource could be disrupted.

Archeologists request Archaeological Resources Protection Act (ARPA) permits or Antiquities Act permits to conduct "Surveys and limited testing and limited collections on lands identified" and "Excavation, collection and intensive study of specific sites described" on District land. Permits are issued by the Regional Director to qualified archeologists.

Permits can be for anyplace on FWS owned and managed lands, but each permit is for specific lands; i.e., no general archeological permits are authorized.

The District Manager issues a special use permit to archeologists prior to investigation on lands managed by the District, to define allowable dates and times for the investigation, and other management controls.

Availability of Resources: The District has resources available to administer this use. This activity will require the District Manager to develop and issue a Special Use Permit and random inspections of the project area. ARPA/Antiquities permits are received by the Regional Historic Preservation Officer and issued by the Regional Director as part of normal duties.

Anticipated Impacts of the Use: Impacts from routine pedestrian surveys, soil coring, shovel tests, and land form analysis are limited to short-term disturbance to wildlife using the immediate area and disruption of vegetative cover for the growing season on an extremely small area affected by shovel tests.

Impacts from a large scale excavation are potentially longer term (several growing seasons) with associated wildlife disturbance impacts affecting animals in the immediate area and vegetation cover disruption severe enough to require site regrading and reseeding of the area to desired native species.

Public Review and Comment: During the Scoping phase of the preparation of the Comprehensive Conservation Plan (CCP), six open houses were held to solicit public input and comment on all aspects of district management. Draft copies of the CCP will be distributed during a 30-day comment period and an additional six public meetings will be held to garner public comments, written and verbal, on the draft plan including all Compatibility Determinations.

Determination:

____ Use is Not Compatible

__X__ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:
Applicant must obtain a Special Use Permit issued by the District Manager. The Special Use Permit is to prescribe administrative or management restrictions required by the District Manager.

Permittee will shore up walls of test pits and trenches in accordance with OSHA standards; will flag, barricade, and sign testing areas as necessary to prevent injury to the public; will refill shovel tests as soon as excavated and data recorded including replacing the vegetative plug to restore original conditions; will backfill excavations as soon as data recording is completed and seed the surface with a grass or other vegetative mix approved by the District Manager.

Predetermined stipulations on ARPA/Antiquities permits and the requirements in 43 CFR Part 7, "Protection of Archaeological Resources: Uniform Regulations," contain protective measures to be accomplished by archeologists.

Justification:
Although temporary disruption of habitat and wildlife routine could occur, this disruption is limited in scope and duration. Due to stipulations and the issuance of a permit, managers will have control on when the activitity will occur so sensitive habitat, or sensitive nesting times, can be avoided as needed. With stipulations in place, the use would not materially interfere with or detract from the purpose of WPAs. No long-term harm should come to the natural resources managed by the District.

In addition, the archeological investigations would be conducted in the public interest for which Federal agencies protect archeological sites; and the results may be included in public interpretive exhibits and other public dissemination. The results of the study could increase District understanding of prior human activities on the District and could be part of District interpretive program.

Signature: Refuge Supervisor: _____
(Signature and Date)

Concurrence: Regional Chief: _____
(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: Collection of Edible Wild Plant Foods for Personal Use

Refuge Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authority(ies): Waterfowl Production Areas (WPAs) – Migratory Bird Hunting Stamp Act of March 16, 1934 as amended by section 3 of the Act of August 1, 1958 (72 Stat.486, 16 U.S.C. sec. 716 d(c)), authorized the Secretary of Interior to acquire small wetland or pothole areas suitable as Waterfowl Production Areas.

FmHA fee title transfer properties – Consolidated Farm and Rural Development Act 7 U.S.C. § 2002.

Refuge Purpose(s): Waterfowl Production Areas - "....as Waterfowl Production Areas" subject to "....all of the provisions of such Act [Migratory Bird Conservation Act]....except the inviolate sanctuary provisions...." and "...for any other management purpose, for migratory birds"

FmHA fee title transfer properties – "for conservation purposes...."

National Wildlife Refuge System Mission: To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Use: Allow public to collect plant food products on WPAs for personal use.

Some plants growing on WPAs produce edible products such as fruits and nuts. Apples, raspberries and walnuts are examples these products. These plants grow in the uplands, occupy a small percentage of the total upland acreage, and are often found at abandoned building sites which have been reclaimed by the U.S. Fish and Wildlife Service. Harvest occurs during the daylight hours, usually in the late summer or fall and typically is of short duration. These foods are hand harvested by picking the products from the plant or gathering what has fallen to the ground.

Mushrooms, asparagus and wild mint are examples of plants that are collected and consumed or used as tea. These are cut by hand during harvest.

Wild rice grows in permanent wetlands. With a license from the State of Minnesota, it can be hand harvested from July 15 through September 30 using non-motorized watercraft. Harvest time is restricted to 9:00 a.m. to 3:00 p.m.

Access to harvest sites is accomplished by walking from a designated parking area or public roadway. Canoes used to harvest wild rice are launched at boat ramps or carried to the wetland from parking areas or public roadways.

Collection of these foods is not a wildlife-dependent recreational use and occurs infrequently. For a small number of people, this is a traditional, family oriented activity which provides an opportunity for those participating to collect wholesome, healthy foods while enjoying the beauty of the natural environment.

Availability of Resources: Waterfowl Production Areas have been open to hunting since they were acquired. As a result, access trails, parking lots, signage and other facilities as well as staff to enforce regulations and maintain these facilities have been provided by the Service. These facilities will be maintained to meet the needs of the hunting public and will be used incidentally by those who are collecting edible wild plant foods. This use will not require a significant increase in additional maintenance or enforcement staff expenditures. The Service will not have to provide special equipment.

Anticipated Impacts of the Use: Historically, public participation in the collection of plant food products on WPAs was low, and future participation is also expected to be low. The quantity and frequency of plant food products removed is not expected to significantly diminish wildlife food sources or jeopardize wildlife survival.

Short-term disturbance to wildlife may occur during these activities, but will be insignificant. Most of these activities occur in the late summer or fall, after ground-nesting birds have completed the nesting season. This activity should not result in short or long-term impacts that adversely affect the purpose of WPAs or the mission of the National Wildlife System.

Public Review and Comment: Six open houses were held and written comments were solicited from the public about Wetland Management District operations during the drafting of Comprehensive Conservation Plans. This process identified 22 issues of concern. The collection of plant food products was not identified as an issue of concern.

This Compatibility Determination was prepared concurrently with, and included in the Draft Comprehensive Conservation Plans for Wetland Management Districts in Minnesota. Public review and comment was solicited during the CCP comment period.

Determination (check one below):

_____ Use is Not Compatible

__X__ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

- The use of motorized vehicles or motorized water craft is prohibited except by permit or in designated parking areas, access trails or public roads.
- Camping, overnight use and fires are prohibited.
- Digging of plants or their roots is prohibited.
- Plant food products cannot be sold.
- Damage to trees is prohibited.
- Wild rice will be harvested according to state regulations.

Justification: This use will have limited and localized impacts when conducted within the stipulations above. Administration of the use will require little to no administrative time or funding. This use will not diminish the primary purposes of waterfowl production, or the conservation of other migratory birds and wildlife.

Signature: Refuge Supervisor: _____
(Signature and Date)

Concurrence: Regional Chief: _____
(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: One-time Recognition or Dedication Ceremonies on WPAs

Refuge Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authority(ies): Waterfowl Production Areas (WPAs) – Migratory Bird Hunting Stamp Act of March 16, 1934 as amended by section 3 of the Act of August 1, 1958 (72 Stat.486, 16 U.S.C. sec. 716 d(c)), authorized the Secretary of Interior to acquire small wetland or pothole areas suitable as Waterfowl Production Areas.

FmHA fee title transfer properties – Consolidated Farm and Rural Development Act 7 U.S.C. § 2002.

Refuge Purpose(s): Waterfowl Production Areas – "....as Waterfowl Production Areas" subject to "....all of the provisions of such Act [Migratory Bird Conservation Act]....except the inviolate sanctuary provisions...." and "...for any other management purpose, for migratory birds"

FmHA fee title transfer properties – "for conservation purposes...."

National Wildlife Refuge System Mission: To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Use: Allow one-time recognition or dedication ceremonies on WPAs.

The purpose of this use is to recognize the significant contributions made by individuals or organizations toward the conservation of our natural resources. These ceremonies highlight accomplishments resulting from cooperation with various partners. A ceremony may include speeches, presentation of Certificates of Recognition, luncheons and the erection of a permanent sign or cairn commemorating contributions by project partners. Participant numbers typically vary from 10 to 100 people.

These events are usually located in an elevated grassland area with a vista overlooking a wetland. They are one day in duration and typically conducted from April through November.

The event site would typically be 1 to 5 acres in size and may require mowing prior to the Ceremony. Temporary access trails to the site may be necessary and would be established by a one-time mowing. Access to the site could be accomplished by either walking or driving from a designated parking area or public roadway.

These ceremonies are important in recognizing the important contributions of Partners that were vital in the completion of specific projects or conservation programs. They provide well-deserved recognition for past efforts and build a foundation for continued cooperation necessary to the success of future projects. These events are not a wildlife-dependent recreational use and occur very infrequently, usually only once for an individual WPA.

Availability of Resources: As a partner and participant in these ceremonies, the WMD may dedicate staff time and incur incidental expenses to plan, prepare and conduct these events. The WMD may occasionally provide vehicles or trailers for transportation, sound systems or tables and chairs for use during these events if available. It is unlikely that a WMD will be involved in more than four of these events each year, so these activities do not present either a short-term burden or significant long-term commitment of resources. Financial and personnel resources are adequate for WMD participation in these events and will not materially interfere with or detract from fulfillment of the WMD purpose or mission of the NWRS.

Anticipated Impacts of the Use: Short-term disturbance to ground nesting birds and other wildlife may occur during these activities, but will be insignificant. Ceremonies should be scheduled when possible between July 15 and September 15 to minimize conflicts with ground-nesting birds and the hunting season. The short duration, infrequency and restricted area of these events will result in minor impact on vegetation and wildlife.

Ceremonies conducted during the hunting season could present a minor disturbance to the hunting public and should be scheduled or located to minimize this potential conflict. This activity will not result in result in significant short or long-term impacts that adversely affect the purpose of WPAs or the mission of the National Wildlife System.

Public Review and Comment: Six open houses were held and written comments were solicited from the public about Wetland Management District operations during the drafting of Comprehensive Conservation Plans. This process identified 22 issues of concern. One-time Recognition or Dedication Ceremonies on WPAs was not identified as an issue of concern.

This Compatibility Determination was prepared concurrently with, and included in the Draft Comprehensive Conservation Plans for Wetland Management Districts in Minnesota. Public review and comment was solicited during the CCP comment period.

Determination (check one below):

_____ Use is Not Compatible

__X__ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

- Camping, overnight use and fires are prohibited.
- A portable toilet is required for events longer than four hours in duration where food is served.
- A Special Use Permit from the Wetland Manager is required prior to the requested activity.

Justification: This use has only localized and short-duration impacts to the resources on any particular unit. The use is most often conducted outside of the waterfowl nesting season and thus will not materially interfere with or detract from the purpose of WPAs. Stipulations, which include the issuance of a special use permit as applicable, further safeguard and control the duration and intensity of the use. Managers will also select sites as to minimize disturbance to important habitat areas.

Signature: Refuge Supervisor: _____

(Signature and Date)

Concurrence: Regional Chief: _____

(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: Cooperative Farming for Cover Enhancement

Refuge Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authority(ies):
Waterfowl Production Areas – Migratory Bird Hunting Stamp Act of March 16, 1934 as amended by section 3 of the Act of August 1, 1958 (72 Stat. 486, 16 U.S.C. sec. 716 d(c), authorized the Secretary of Interior to acquire small wetland or pothole areas suitable as Waterfowl Production Areas.

FmHA fee title transfer properties – Consolidated Farm and Rural Development Act 7 U.S.C. 2002.

Refuge Purpose(s): Waterfowl Production Areas – "...as Waterfowl Production Areas" subject to "...all of the provisions of such Act [Migratory Bird Conservation Act]....except the inviolate sanctuary provisions..." and "...for any other management purpose, for migratory birds."

FmHA fee title transfer properties – "for conservation purposes..."

National Wildlife Refuge System Mission: "The Mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

Description of Use: Cooperative farming is the term used for cropping activities done by a third party on land that is owned by the Service in fee title or controlled by the Service through a restrictive easement. This type of activity is usually done on a short-term basis (3 years or less) to prepare an optimum seed bed for the establishment of native prairie species.

The cropping is done under the terms and conditions of a Cooperative Farming Agreement or Special Use Permit issued by the Wetland District Manager. The terms of the Agreement or Permit insure that all current Service and District restrictions are followed.

Cooperative farming activities are only compatible on previously disturbed areas that have unacceptable levels of chemical residue, noxious weeds, or non-native plant species or ecotypes or to honor the land use clauses of a purchase agreement. To ensure that all Service policies are met, all such land use clauses must be approved by the Wetland District Manager prior to Service acceptance of the purchase agreement.

Waterfowl Production Areas in Minnesota average less than 200 acres in size and are intermingled with private and other public lands. Although the specific acreage of fields to be cooperatively farmed will vary by unit, they will typically range from 5 to 160 acres.

Availability of Resources:
The needed staff time for development and administration of cooperative farming programs is already committed and available. Most of the needed work to prepare for this use would be done as part of routine grassland management duties. The decision

to use a cooperative farmer would occur as part of strategies developed under grassland development and management discussions. The additional time needed to coordinate issuance and oversight of the needed Special Use Permit or Cooperative Farming Agreement is relatively minor and within existing District resources.

The cooperative farming of Service land will in most cases generate income for the Service. In accordance with Service policy, all income is submitted for deposit in the Refuge Revenue Sharing Account and is not available at the district level to offset station costs incurred in administration of this use. However, all Service employees involved in the administration of the program must be sensitive to the primary purpose of cooperative farming: providing an optimum seed bed for native prairie plant species. The Service should receive a fair market value from cooperative farmers, but generation of income is a secondary consideration when developing the terms and conditions of a cooperative farming agreement.

To lessen any appearance of favoritism or impropriety, District Managers should document how cooperators were selected and how rental rates were derived (see Refuge Manual).

Anticipated Impacts of the Use: Cooperative farming to prepare suitable seed beds for native prairie plantings will result in short-term disturbances and long-term benefits to both resident and migratory wildlife using Waterfowl Production Areas and Service-managed upland easements. Short-term impacts will include disturbance and displacement typical of any noisy heavy equipment operation. Cropping activities in old fields or abandoned croplands will also result in short-term loss of habitat for any animal or insect species using those areas for nesting, feeding, or perching. Long-term benefits are extremely positive due to establishment of diverse nesting cover including native tallgrass species. The resulting habitat will greatly improve conditions for most of the same species affected by the short-term negative impacts. Strict time constraints placed on this use will limit anticipated impacts to these relatively minor areas.

Public Review and Comment: During the Scoping phase of the preparation of the Comprehensive Conservation Plan (CCP), six open houses were held to solicit public input and comment on all aspects of district management. Draft copies of the CCP will be distributed during a 30-day comment period and an additional six public meetings will be held to garner public comments, written and verbal, on the draft plan including all Compatibility Determinations.

Determination:

____ Use is Not Compatible

__X__ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Cooperative farming agreements will be limited to 3 years or less and comply with all appropriate Service regulations on chemical application and use.

Justification: The cooperative farming of previously disturbed areas that are owned or under easement by the Service and have unacceptable levels of chemical residue, noxious weeds, or non-native plant species or ecotypes or are being farmed to honor the land use clauses of a purchase agreement to prepare an optimum seed bed for the establishment of native prairie species, will not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purposes of Waterfowl Production Areas or FmHA transfer lands for the following reasons:

1) Only areas that have already been significantly manipulated or altered by cropping activities will be affected. These areas contain few if any native plants and offer extremely limited value to the ecological integrity of the unit or landscape.

2) Cooperative farming activities in most cases, provide the fastest, most cost effective way to establish native prairie species on areas that have unacceptable levels of chemical residue, noxious weeds, or non-native plant species or ecotypes. District staff could complete all work, but for most districts that would required additional equipment and/or staff to efficiently break up non-native brome sod, or to cultivate and control weeds on small, widely scattered tracts of land. Hiring contractors to do this work at rates that can approach $100/acre is a possibility, but would require additional funds in years when the farming acres were high. By using local farmers to conduct these farming activities, district budgets and staff time can be better allocated to completing the needed restoration (seeding of native grasses and forbs) on lands that have completed the farming cycle and are in good condition for seeding.

3) Short-term impacts of farming small tracts of land are minor. No wildlife or habitat losses occur when land purchased in row crop is farmed for an additional period of 2-3 years. Low quality grasslands that are farmed as a first step to conversion to higher-value native grasslands will result in habitat loss for trust resources during the farming period. The long-term benefits to the ecological integrity of the district and landscape by restoring these degraded or row cropped areas to native prairie plant species are significant and exceed the short-term losses incurred through the cropping process.

Signature: Refuge Supervisor _____

(Signature and Date)

Concurrence: Regional Chief _____

(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: Disability Access to Waterfowl Production Areas

Refuge Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authority(ies): Waterfowl Production Areas – Migratory Bird Hunting Stamp Act of March 16, 1934 as amended by section 3 of the Act of August 1, 1958 (72 Stat. 486, 16 U.S.C. sec. 716 d(c), authorized the Secretary of Interior to acquire small wetland or pothole areas suitable as Waterfowl Production Areas.

FmHA fee title transfer properties – Consolidated Farm and Rural Development Act 7 U.S.C. 2002.

Refuge Purpose(s): Waterfowl Production Areas – "...as Waterfowl Production Areas" subject to "...all of the provisions of such Act [Migratory Bird Conservation Act]....except the inviolate sanctuary provisions..." and "...for any other management purpose, for migratory birds."

FmHA fee title transfer properties – "for conservation purposes..."

National Wildlife Refuge System Mission: "The Mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

Description of Use: Disability access is the term used to describe the process of granting exemptions to current Refuge Regulations that assist persons with disabilities in engaging in compatible activities on Waterfowl Production Areas. The most common type of exemption given will be Special Use Permits of limited duration which allow the use of motorized vehicles on existing roads and trails. All exemptions granted will comply with the general public safety regulations of the Department of Interior and the specific public safety guidance of the Service Compatibility Policy. Based on experience to date, it is expected that most disability access requests will be for hunting, but this policy also applies to the other priority public uses on refuges; wildlife observation, wildlife photography, environmental education, interpretation, and fishing.

Waterfowl Production Areas in Minnesota average less than 200 acres in size and are intermingled with private and other public lands. Although the specific locations and sizes of areas affected will vary by Permit disturbances will typically vary from 0.5 to 3.0 acres.

Availability of Resources: The needed staff time for development and administration of Special Use Permits authorizing motorized vehicle use on existing roads and trails is already committed and available. Most of the work needed to prepare for this use would be done as part of routine Waterfowl Production Area management duties. The decision to allow such use would occur as part of normal facility management and inspection programs. The additional time needed to coordinate issuance and oversight of the needed Special Use Permit is relatively minor and within existing District resources.

Anticipated Impacts of the Use: A small amount of additional motorized use on established roads and trails will result in short-term disturbances to both resident and migratory wildlife using Waterfowl Production Areas. Short-term impacts will include disturbance and displacement typical of any motorized intrusion into wildlife habitat. Long-term impacts are not anticipated as most of the use will involve travel on roadways already used by Refuge staff to conduct management surveys and activities throughout the year.

Public Review and Comment: During the Scoping phase of the preparation of the Comprehensive Conservation Plan (CCP), six open houses were held to solicit public input and comment on all aspects of district management. Draft copies of the CCP will be distributed during a 30-day comment period and an additional six public meetings will be held to garner public comments, written and verbal, on the draft plan including all Compatibility Determinations.

Additionally, a news release will be sent to local newspapers each fall prior to hunting seasons describing the disability access policy and soliciting public comments to Refuge offices.

Determination:

____ Use is Not Compatible

__X__ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Motorized access will be limited to existing roads and trails in good condition.

2. Access is limited to persons who qualify for disability access as described in the Comprehensive Conservation Plan for the Minnesota Wetland Management Districts.

Justification:

The Americans With Disabilities Act and ensuing Service policy require that all Service programs and facilities meet the needs of the disabled. Offering special access as described in this determination is one way that the Service can meet that obligation to the American public.

Authorizing motorized vehicle use on established roads and trails for persons with disabilities engaged in compatible uses will cause minimal disturbance and provide appropriate recreational opportunities for people who might otherwise not be able to visit Waterfowl Production Areas.

Issuance of permits for disability access will not be limited to a set number as it is expected that meeting the requested demand will still result in a small amount of permits with only minimal wildlife disturbance as a consequence. At the expected level of use, this use is compatible as it will be below the threshold where unacceptable wildlife disturbance will occur. If demand far exceeds expectations within the

time period covered by this determination and the disturbance threshold is exceeded, District staff will reevaluate the program and may limit the number of permits issued.

Signature: Refuge Supervisor _____
(Signature and Date)

Concurrence: Regional Chief _____
(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: Interpretation and Environmental Education

Refuge Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authority(ies): Waterfowl Production Areas – Migratory Bird Hunting Stamp Act of March 16, 1934 as amended by section 3 of the Act of August 1, 1958 (72 Stat.486, 16 U.S.C. sec. 716 d(c)), authorized the Secretary of Interior to acquire small wetland or pothole areas suitable as Waterfowl Production Areas.

FmHA fee title transfer properties – Consolidated Farm and Rural Development Act 7 U.S.C. § 2002.

Refuge Purpose(s): Waterfowl Production Areas – "...as Waterfowl Production Areas" subject to "...all of the provisions of such Act [Migratory Bird Conservation Act]...except the inviolate sanctuary provisions...." and "...for any other management purpose, for migratory birds"

FmHA fee title transfer properties – "...for conservation purposes...."

National Wildlife Refuge System Mission: "The Mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

Description of Use: To allow wildlife interpretation and environmental education programs to be conducted on Waterfowl Production Areas. Formal programs include activities prepared, scheduled, and organized for school-aged children and organized groups by U.S. Fish and Wildlife Service staff. Programs conducted by the Prairie Wetlands Learning Center would be included in this category. In most cases, curriculums and program schedules are prepared in advance. These curriculums address a number of wildlife conservation issues including wetland and grassland conservation, migratory bird management, and the conservation of endangered species. Informal programs include self-guided auto tour routes and nature trails, impromptu presentations and discussions of wildlife conservation issues with interested citizens, casual visitors, and unscheduled groups. The visitation and use of a Waterfowl Production Area by local educators and their classes on their own for the purposes of furthering their understanding of natural resource management issues would also classified as an informal program.

In addition, this use includes the development of indoor interpretive areas within Wetland Management District offices. There are many purposes for these exhibits, including telling the story of waterfowl conservation and the National Wildlife Refuge System.

Availability of Resources: Some staff and funding are available for a limited amount of interpretation and environmental education programming on Waterfowl Production Areas. Currently, however, staffing levels and funding are not adequate to fully capitalize on all the opportunities to interpret wildlife conservation issues within these rural communities. The individual station Comprehensive Conservation Plans detail the needed funding and staff to bring these programs up to Service standards.

Anticipated Impacts of the Use: The overall impacts to Waterfowl Production Areas and their associated wildlife populations from this use will be minimal. There will be some disturbance to waterfowl and other wildlife, but at levels that will not likely interfere with waterfowl production. School buses and personal vehicles will utilize parking areas and access trails already constructed for use by waterfowl hunters and Service employees conducting habitat management activities. The limited number of nature trails that will be developed will minimize disturbance to vegetation and wildlife use of these areas. Any auto tour routes are designed to minimize disturbance to waterfowl during the spring breeding/nest season.

Public Review and Comment: Six open houses were held in preparation for the Comprehensive Conservation Plans for the Minnesota Wetland Management Districts. Public comments have also been solicited about Service operations including public use programs such as interpretation and environmental education. The Service has also contracted with the University of Minnesota to conduct a visitor use study of Waterfowl Production Areas in western Minnesota. Upon completion, this survey will yield additional public input into the use of Waterfowl Production Areas for interpretation and environmental education.

Determination:

____ Use is Not Compatible

__X__ Use is Compatible With Following Stipulation

Stipulation Necessary to Ensure Compatibility:

1. Use of motorized vehicles and water craft is prohibited except by permit or in designated parking areas, access trails, or public roads/tour routes.

2. Managers will monitor use patterns and densities and make adjustments in timing, location and duration as needed to limit disturbance.

Justification: This use has been determined compatible provided the above stipulation is implemented. This use is being permitted as a priority public use and will not diminish the primary purposes of waterfowl production as well as conservation of migratory birds and other wildlife. This use will meet the mission of the NWRS by furthering understanding and knowledge of this Nation's migratory bird conservation needs by the general public.

Signature: Refuge Manager: _____
(Signature and Date)

Concurrence: Regional Chief: _____
(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: Use of WPAs for Fire Department Training: burning structures

Refuge Name: Minnesota Waterfowl Production Areas

Establishing and Acquisition Authority(ies): Waterfowl Production Areas – Migratory Bird Hunting Stamp Act of March 16, 1934 as amended by section 3 of the Act of August 1, 1958 (72 Stat.486, 16 U.S.C. sec. 716 d(c), authorized the Secretary of Interiro to acquire small wetland or pothole areas suitable as Waterfowl Production Areas.

FmHA fee title transfer properties – Consolidated Farm and Rural Development Act 7 U.S.C. 2002.

Refuge Purpose(s): Waterfowl Production Areas – "....as Waterfowl Production Areas" subject to "....all of the provisions of such Act [Migratory Bird Conservation Act]....except the inviolate sanctuary provisions...." and "...for any other management purpose, for migratory birds"

FmHA fee title transfer properties – "for conservation purposes...."

National Wildlife Refuge System Mission: "The Mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

Description of Use: Allow Fire Departments to burn abandoned structures on Waterfowl Production Areas. The purpose of this activity is twofold: the FWS safely disposes of excess property; and the Fire Department obtains valuable firefighting training. Many WPAs were acquired with existing structures to include houses, barns, outbuildings, etc. These structures are excess federal property, they are safety hazards and they are eyesores to the public. The structures are of no historic, cultural, or monetary value (determined by prior procedures, see stipulations).

Availability of Resources: Removal of abandoned structures will result in decreased law enforcement staff time and will enable restoration of the natural landscape to the site.

Anticipated Impacts of the Use: Short duration smoke emissions during the burn operation. Minimal impact to vegetation (primarily non-native) from vehicle traffic around the site during the burn operation. Temporary disturbance to wildlife populations during the burn operation, long-term improvement to wildlife habitat after restoration of the site, including the reduction of denning sites for known waterfowl nest predators such as skunks and racoons.

Public Review and Comment: During the drafting of the Comprehensive Conservation Plans six open houses were held and written comments were solicited from the public about Wetland Management District operations. Additionally the Service has contracted with the University of Minnesota to conduct a visitor use study of Waterfowl Production Areas in Western Minnesota. The study is in its second year and will yield a wide array of public input on Service programs.

Determination: ____ Use is Not Compatible

__X__ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. The activity is considered a prescribed fire and is subject to all FWS policies and guidelines for Fire Management, FWS Service Manual, Series Habitat Management, 621 FW 3. Requires an approved Fire Management Plan and approved prescribed burn plan.

2. FWS employees will not participate in structural fire suppression, FWS Service Manual, Series Habitat Management, 621 FW 1, 3.8.

3. Prior to disposal of any structure the FWS will comply with all Service and State policies, laws and guidelines regarding the disposal of excess Federal property to include; cultural/historical/archeological review, air quality and solid waste disposal requirements, and burn permit requirements.

4. An agreement with the Fire Department must be in place. The agreement must clearly state the conditions under which the Fire Department may conduct the burn operation, liability waivers, qualification and personal protective equipment requirements or other items important to the burning operation. (FWS Service Manual, Series Habitat Management, 621 FW 3, 3.6)

Justification: Removal of surplus building sites by agreement with local fire departments is cost-effective, reduces public safety hazards, and restores WPAs to a more natural condition. Building removal also facilitates waterfowl production by removing predator den sites. The short-term disturbance is offset by restoration of the building site, and will not materially interfere with waterfowl production.

Signature: Refuge Supervisor _____
(Signature and Date)

Concurrance: Regional Chief _____
(Signature and Date)

Mandatory 10- or 15-year Re-evaluation:

DRAFT COMPATIBILITY DETERMINATION

Use: Use of WPAs for Fire Department Training: prescribed burning of natural fuels.

Refuge Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authority(ies): Waterfowl Production Areas – Migratory Bird Hunting Stamp Act of March 16, 1934 as amended by section 3 of the Act of August 1, 1958 (72 Stat.486, 16 U.S.C. sec. 716 d(c), authorized the Secretary of Interiro to acquire small wetland or pothole areas suitable as Waterfowl Production Areas.

FmHA fee title transfer properties – Consolidated Farm and Rural Development Act 7 U.S.C. 2002.

Refuge Purpose(s): Waterfowl Production Areas - "....as Waterfowl Production Areas" subject to "....all of the provisions of such Act [Migratory Bird Conservation Act]....except the inviolate sanctuary provisions...." and "...for any other management purpose, for migratory birds"

FmHA fee title transfer properties – "for conservation purposes...."

National Wildlife Refuge System Mission: "The Mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

Description of Use: Allow Fire Departments to participate during prescribed fire training exercises on Waterfowl Production Areas. The purpose of this activity is twofold: the FWS accomplishes habitat management objectives through the appropriate use of prescribed fire; and the Fire Department obtains valuable firefighting training. FWS personnel would conduct prescribed burns according to FWS policy. FWS personnel would supervise and conduct all aspects of the prescribed burn. Fire Department personnel would participate as trainees and as such would not be part of the essential personnel required to conduct the prescribed burn. Prescribed burns would be conducted based on accomplishing land management objectives. Prescribed burns would not be conducted when training objectives did not complement land management objectives.

Availability of Resources:
Minor additional FWS staff would be required to augment the FWS prescribed burn crew in order to directly supervise Fire Department trainees. Fire Department trainees would not be part of the organization needed to ignite, hold, and mop-up the prescribed burn.

Anticipated Impacts of the Use: There would be a short-term disturbance to vegetative cover in the burn area. Long-term impacts such as a reduction in undesirable woody debris and encroachment of woody vegetation will occur.

Public Review and Comment: During the drafting of the Comprehensive Conservation Plans six open houses were held and written comments were solicited from the public about Wetland Management District operations. Additionally the Service has contracted with the University of Minnesota to conduct a visitor use study of Water-

fowl Production Areas in Western Minnesota. The study is in its second year and will yield a wide array of public input on Service programs

Determination:

____ Use is Not Compatible

__X__ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. The activity is considered a prescribed fire and is subject to all FWS policies and guidelines for Fire Management, FWS Service Manual, Series Habitat Management, 621 FW 3. Requires an approved Fire Management Plan and approved prescribed burn plan.

2. Fire Department personnel will not be used as members of the prescribed burn crew. Fire Department personnel will be trainees, functioning under the supervision of a FWS employee for the purpose of hands on skills training. At no time will Fire Department personnel be used as essential burn crew members.

3. Fire Department personnel must be qualified members of a sponsoring Fire Department. Fire Department personnel participating as trainees must be formally nominated to the training exercise by the sponsoring Fire Department.

Justification: The activity will reduce unwanted woody debris and associated woody vegetation which may be encroaching on native grasslands. Grassland burning will improve the overall site quality to enhance waterfowl production and improve habitat for other nesting, migratory trust species.

Signature: Refuge Supervisor _____
(Signature and Date)

Concurrence: Regional Chief _____
(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: Recreational Fishing

Refuge Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authority(ies): Waterfowl Production Areas – Migratory Bird Hunting Stamp Act of March 16, 1934 as amended by section 3 of the Act of August 1, 1958 (72 Stat.486, 16 U.S.C. sec. 716 d(c)), authorized the Secretary of Interior to acquire small wetland or pothole areas suitable as Waterfowl Production Areas.

FmHA fee title transfer properties – Consolidated Farm and Rural Development Act 7 U.S.C. § 2002.

Refuge Purpose(s):

Waterfowl Production Areas – "....as Waterfowl Production Areas" subject to "....all of the provisions of such Act [Migratory Bird Conservation Act]....except the inviolate sanctuary provisions...." and "...for any other management purpose, for migratory birds"

FmHA fee title transfer properties – "for conservation purposes...."

National Wildlife Refuge System Mission: To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Use: Allow public fishing on Waterfowl Production Areas (WPAs) in accordance with State regulations and seasons. Minnesota recreational fishing regulations allow the traditional taking of game fish species with rod and reel from shore, a boat or through the ice, removal of rough fish by spear, harpoon, archery and dip net as well as the taking of limited quantities of mussels, crayfish, frogs, minnows and turtles for personal use. All WPAs will be open to public fishing, provided that all forms of fishing or entry on all or any part of individual areas may be temporarily suspended by posting upon occasions of unusual or critical conditions of, or affecting land, water, vegetation, or wildlife populations. As of March 1999 the U.S. Fish and Wildlife Service owns a total of 56,693 acres of wetlands on WPAs in Minnesota. Although the entire wetland acreage is open to fishing approximately one (1) percent provide waters deep enough to support viable fisheries. Acquisition of WPAs is ongoing and as lands are purchased they will be opened to fishing. The game fish season ordinarily runs from the second Sunday in May through the third Sunday in February while other season for taking of aquatic species run from April or May through November to February. Generally WPAs have access trails from public roads and for safety reasons parking lots of less than 1 acre are provided where sufficient traffic exists. This use is being proposed as (1) "The Procedural Agreement between the Minnesota Department of Natural Resources and Service for the Coordination of the Small Wetlands Acquisition Program in Minnesota" states "it is the policy of the Regional Director to cooperate with the Department in providing habitat for resident wildlife and for public access and use, including hunting." and (2) Fishing is a priority public use on National Wildlife Refuge System Lands. WPAs average approximately 210 acres in size and are intermingled across the landscape with other public and private lands. The few WPAs with viable fisheries are generally connected to adja-

cent streams or lakes that are located off Service lands and aquatic species move between these bodies of water. The State of Minnesota manages these species over the larger bodies of water maintaining healthy populations by allowing harvest of surpluses though recreational fishing.

Availability of Resources: WPAs by statute and regulation are open to waterfowl hunting and as a result access trails, parking lots, signage and other facilities as well as staff to enforce regulations and maintain these facilities have been provided by the Service. With the exception of additional enforcement staff time these facilities will be used by the public while engaged in recreational fishing. Given the anticipated light fishing pressure, staff are deemed adequate to administer and enforce laws related to fishing.

Anticipated Impacts of the Use: Fishing activities and harvest of other aquatic species may cause temporary disturbance to waterfowl and other wildlife using WPAs. This disturbance may displace individual animals to other parts of the WPA, however, this disturbance will be limited in scope due to: (1) the small number of WPAs with viable fisheries; (2) prohibition on use of motorized boats; (3) access which is predominately via foot travel; (4) lack of boat launching facilities. Installation and use of parking areas and access trails will result in minimal impacts as these parking areas and trails are used by waterfowl hunters as well as by Service employees conducting refuge management activities.

Public Review and Comment: During drafting of the Comprehensive Conservation Plans six open houses were held and written comments were solicited from the public about Wetland Management District operations including public use programs such as fishing. Comments were received, compiled and addressed as issues in the Plan as well as the Environmental Assessment. No comments regarding fishing on WPAs were received. This determination was also included in the final draft distributed to the public for review and comment. Additionally the Service has contracted with the University of Minnesota to conduct a visitor use study of Waterfowl Production Areas in western Minnesota. This study is in its second year and will yield a wide array of public input on Service programs including fishing.

Determination (check one below):

_____ Use is Not Compatible

__X__ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Use of motorized vehicles and water craft is prohibited except by permit or in designated parking areas, access trails or public roads.

2. Camping, overnight use and fires are prohibited.

3. Littering or disposal of entrails is prohibited.

4. All applicable State and Federal Regulations will apply.

Justification: Fishing at anticipated levels and on small areas of relatively few WPAs will have localized and short-duration impacts and will not materially interfere with the waterfowl production purpose of WPAs. Stipulations will help reduce or eliminate any unwanted impacts of the use. State regulations and monitoring help ensure that harvest levels of fish do not harm long-term populations.

Signature: Refuge Supervisor: _____
(Signature and Date)

Concurrence:Regional Chief: _____
(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: Controlled grazing on waterfowl production areas and conservation easements

Station Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authorities: The passing of Public law 87-383 (Wetlands Loan Act of 1961) established wetland districts in Minnesota. Lands are acquired under the Migratory Bird Hunting and Conservation Stamp Tax, 16 U.S.C. 718 and since 1958 under Public Law 85-585 (75 Stat. 486) for acquisition of "Waterfowl Production Areas".

Consolidated Farm and Rural Development Act 7 U.S.C. 2002.

Refuge Purpose(s): For lands acquired under the Migratory Bird Hunting Conservation Stamp Tax, 16 U.S.C. 718, as amended, the purpose of acquisition is "...as Waterfowl Production Areas" subject to "...all the provisions of such act (Migratory Bird Conservation Act) ...except the inviolate sanctuary provisions...," 16 U.S.C. 718 (c) (Migratory Bird Hunting and Conservation Stamp) "...for any other management purpose, for migratory birds." 16 U.S.C. 715d (Migratory Bird Conservation Act).

For "conservation purposes..." of FmHA fee title transfer properties.

National Wildlife Refuge System Mission: The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Use: Allow the limited grazing by domestic livestock, chiefly cattle but potentially including other domestic livestock, on waterfowl production areas and easements to improve grassland vigor and health. Controlled grazing is recognized as a valuable tool to remove standing vegetation, reduce vegetative litter, and suppress woody vegetation.

Grazing may take place anytime from April through November. Most commonly, we will use short duration grazing pulses lasting 4 to 8 weeks and then require livestock removal. We will use three typical seasons of use. One season will be early spring (mid April to late May) on native prairie or seeded native grasses designed to reduce the vigor of exotic species and increase the vigor of native species. Summer grazing (July 15 – September 1) may be used, especially on non-native grasslands, to stimulate the grassland after the peak nesting season yet allow vegetative regrowth in the fall. Fall grazing (September 1 – October 31) will be designed to have effects similar to spring grazing, mostly on native prairie remnants or fields seeded with native tallgrass prairie species.

Fencing and control of livestock will be the responsibility of the cooperating private party. Market rate grazing fees will be required of permittees. Market grazing fees will include typical market deductions for unusual fencing requirements, required cattle movement, or other factors limiting economic return for the permittees. In 2001, we anticipate these market rates to be $2.75 per animal unit month (AUM). One AUM is the amount of forage consumed by a cow/calf pair in a 30-day grazing period.

Thus, the grazing fee for each cow/calf pair will be $2.75 for each 30 days of grazing. Market rates will determined annually in consultation with USDA on prevailing local grazing rates.

Frequency of grazing on any unit will be based on site-specific evaluation of the grassland unit being managed. Historically, we have frequently grazed units for two consecutive years and then eliminated grazing from the unit for several years before resuming grazing.

Grazing is not a priority public use as identified in the Refuge Improvement Act. As an economic use of Refuge System lands, a compatibility determination for grazing is mandatory.

Availability of Resources: Developing grazing agreements and monitoring compliance and biological effects requires some Service resources. Most grazing costs (fencing, monitoring herd health, and so on) are assumed by the permittee. Some alternative grassland management is required if we do not use grazing as a tool for grassland management. Typically, these other tools are prescribed burning, mowing, and haying. Haying has comparable costs to controlled grazing since it also requires administering special use permits. Mowing is more expensive since all costs are assumed by the agency. Prescribed burning is an effective grassland management tool but staff limitations prevent us from burning as many acres as desirable each year. Plus, there is likely an ecological benefit to rotating grassland management techniques and seasons over time so that a given field may be grazed one year and burned another.

Anticipated Impacts of the Use: Grazing by domestic livestock has severe short-term effects on grassland communities. Many of these effects are desirable and are designed to maintain and improve healthy grassland communities. Some of these effects include removing standing vegetation, trampling of other vegetation, and reducing populations of pioneering woody plants. Other effects of grazing are more harmful but generally short-lived. Grazing in the spring can cause direct loss of grassland bird nests due to trampling and loss of standing vegetation. Grazing at any time of year creates an aesthetic issue of concern for some people who enjoy using WPAs; seeing public land being grazed by domestic livestock reduces the appeal of the visit for many people. Fortunately, our controlled grazing is typically of short duration and does not occur annually on any unit. Grazing livestock can create minor direct disturbance of wildlife but any harm should be negligible. There is a slight potential for conflict between members of the public and livestock or the permittee, particularly in the autumn when most WPAs receive their heaviest use. All permittees will be advised that the unit is open to the public for hunting and other recreation. There is a very slight risk of injury to the public caused by livestock. Most visitors who are uncomfortable using property containing livestock are likely to select another unit or another time of year for their visit.

Public Review and Comment: During drafting of the Comprehensive Conservation Plans six open houses were held and written comments were solicited from the public about Wetland Management District operations including management techniques such as grazing. Additionally the Service has contracted with the University of Minnesota to conduct a visitor use study of WPAs in western Minnesota. This study is in its second year and will yield a wide array of public input on Service programs including land management issues.

A draft version of this compatibility determination will be posted at the headquarters of the Morris Wetland Management District for public review and comment.

Determination:

_____ Use is Not Compatible

___X__ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Grazing will not occur more frequently than 3 out of every 5 years on any tract without the preparation of a site-specific compatibility determination.

2. All fencing costs will be borne by the permittee.

3. No insecticides, including insecticidal dusting bags, will be used on WPAs or easements.

4. No supplemental feeding will be allowed with specific authorization of the Wetland District Manager.

5. Control and confinement of the livestock will be the responsibility of the permittee.

Justification: Controlled grazing by domestic livestock will not materially interfere with or detract from the purposes for which the units were established. Limited livestock grazing creates temporary disturbances to vegetation. Many of these disturbances are desirable for grassland management. Grazing produces an undesirable but short-term impact to grassland bird nesting and site aesthetics. Controlled grazing is an alternative management tool that can be used to replace or complement prescribed burning, mowing, or haying on grasslands. Without occasional disturbance caused by mowing, haying, burning, or grazing, the health of the grassland community would decline, as would an areas potential for waterfowl production.

Signature: Refuge Supervisor: _____
(Signature and Date)

Concurrence: Regional Chief: _____
(Signature and Date)

Mandatory 10-year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: Haying

Refuge Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authority(ies): Waterfowl Production Areas - Migratory Bird Hunting Stamp Act of March 16, 1934 as amended by section 3 of the Act of August 1, 1958 (72 Stat. 486, 16 U.S.C. sec. 716 d(c), authorized the Secretary of Interior to acquire small wetland or pothole areas suitable as Waterfowl Production Areas.

FmHA fee title transfer properties - Consolidated Farm and Rural Development Act 7 U.S.C. 2002.

Refuge Purpose(s): Waterfowl Production Areas - "...as Waterfowl Production Areas" subject to "...all of the provisions of such Act [Migratory Bird Conservation Act]....except the inviolate sanctuary provisions..." and "...for any other management purpose, for migratory birds".

FmHA fee title transfer properties - "for conservation purposes..."

National Wildlife Refuge System Mission: "The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

Description of Use: Haying is the cutting and removal, by baling and transport to an off-refuge location, of grass, either nonnative cools season species such as brome or native warm or cool season species. Haying of this type is typically done by a cooperative farmer acting under authority of a Cooperative Farming Agreement or Special Use Permit issued by the Wetland District Manager.

Haying can be an effective management tool as part of an overall grassland management plan to improve and maintain district grasslands for the benefit of migratory birds. Grasslands need periodic renovation to maintain vigor, diversity, and the structure necessary for migratory bird use. Haying is an effective alternative to burning or grazing, which are two other means used by district staff to maintain grassland vigor. If local site conditions preclude use of prescribe fire due to hazards to neighboring property or a similar problem, removal of accumulated biomass through haying does serve to reduce unwanted overstory, reduce woody plant invasion, etc. Such removal will allow for more vigorous regrowth of desirable species following the haying, although results are neither as dramatic nor positive as with prescribed fire.

Haying may also be used as part of a native grass seeding strategy on newly acquired lands needing restoration. To reduce weed competition and minimize herbicide applications, a cooperative farmer may be used to seed the native grass mix and interseed it with oats. As a requirement of the permit, the cooperator would be required to cut, bale, and remove the oats before maturation. Such silage is useful for dairy operations and serves the biological purpose of releasing the young native grasses for vigorous midsummer growth with minimal competition.

A third possible use of haying on district grasslands involves the initial steps of removing unwanted vegetation prior to seeding the area to native grasses. Haying of a nonnative cool season field is an effective step in advance of spraying the field with Round Up or a similar chemical designed to kill all existing vegetation. Removal of the heavy grass overstory by haying allows the chemical spray to more effectively treat the target plants. Better removal of the unwanted grasses will in turn ensure better success of the planted native grasses whether they are interseeded into the sod or the soil turned over and leveled prior to seeding.

A more limited application for haying on Waterfowl Production Areas involves its use for establishing fire breaks for the prescribed fire program. A cooperative farmer would hay the grassland strips in early fall. That area would then green up earlier in the spring and would have no dead overstory biomass, allowing its use as a fire break.

Waterfowl Production Areas in Minnesota average less than 200 acres in size and are intermingled with private and other public lands. Although specific acreages for fields to be hayed will vary by unit, they will typically range from 5 to 40 acres with only rare exceptions exceeding 75 acres. Newly seeded areas with oats as a nurse crop may be larger as new units are frequently seeded in entirety. In that case, haying could possibly cover the entire unit and cover several hundred acres. Hay acreages for fire breaks would be very small, estimated at less than 5 acres per WPA per event.

Availability of Resources: No additional fiscal resources are needed to conduct this use. The needed staff time is already committed and available. Most of the work needed to prepare for this use would be done as part of routine grassland management duties. The decision to use a cooperative farmer for haying would only follow as part of strategies developed under grassland management discussions. The additional time needed to coordinate issuance and oversight of the needed Special Use Permit or Cooperative Farming Agreement for haying is relatively minor and within existing district resources.

Anticipated Impacts of the Use: Haying will result in short-term disturbances and long-term benefits to both resident and migratory wildlife using Waterfowl Production Areas. Short-term impacts will include disturbance and displacement typical of any noisy heavy equipment operation. Cutting and removal of standing grasses will also result in short-term loss of habitat for those species requiring tall grasses for feeding and perching such as obligatory grassland species such as the bobolink or dickcissel. Long-term benefits will accrue due to the increased vigor of the regrown grasses or the establishment of highly desirable native tallgrass species, which will improve conditions for those same species affected by the short-term negative impacts. Longer-term negative impacts may occur to resident wildlife species such as pheasant that would lose overwintering habitat in the hay areas. Strict time constraints placed on this use will limit anticipated impacts to these relatively minor areas.

Public Review and Comment: During the Scoping phase of the preparation of the Comprehensive Conservation Plan (CCP), six open houses were held to solicit public input and comment on all aspects of district management. Draft copies of the CCP will be distributed during a 30-day comment period and an additional six public meetings will be held to garner public comments, written and verbal, on the draft plan including all compatibility determinations.

Determination:

____ Use is Not Compatible

__X__ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Haying will only be allowed after July 15 to minimize disturbance to nesting migratory birds. In normal years, most birds are off the nest by this date.

2. Bales must be removed from the WPA within 2 days of baling.

3. Windrowed grass left lying to dry prior to baling must be raked and moved every 2 days if left on newly seeded native grass and in no cases should remain on the ground more than 6 days prior to baling.

Justification: Haying will not materially interfere with waterfowl production if done within the necessary stipulations. Use of haying as a management tool can be a valuable technique for providing long-term habitat improvements to grassland that otherwise would degrade through natural succession or dominance of non-native plants. Without this tool, the areas would suffer encroachment of undesirable woody species such as box elder or ash or would remain in unwanted non-native cool season grasses such as brome. Use of the areas by trust species such as waterfowl or grassland obligate species such as bobolink, dickcissel, or grasshopper sparrow would slowly decline in the absence of haying or other similar management.

Signature: Refuge Supervisor: _____
(Signature and Date)

Concurrence:Regional Chief: _____
(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: Hunting of Resident Game and Furbearers

Refuge Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authority(ies): Waterfowl Production Areas – Migratory Bird Hunting Stamp Act of March 16, 1934 as amended by section 3 of the Act of August 1, 1958 (72 Stat.486, 16 U.S.C. sec. 716 d(c)), authorized the Secretary of Interior to acquire small wetland or pothole areas suitable as Waterfowl Production Areas.

FmHA fee title transfer properties – Consolidated Farm and Rural Development Act 7 U.S.C. § 2002.

Refuge Purpose(s): Waterfowl Production Areas – "....as Waterfowl Production Areas" subject to "....all of the provisions of such Act [Migratory Bird Conservation Act]....except the inviolate sanctuary provisions...." and "...for any other management purpose, for migratory birds"

FmHA fee title transfer properties – "for conservation purposes...."

National Wildlife Refuge System Mission: To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Use: Allow public hunting of resident game and furbearers on Waterfowl Production Areas in accordance with State regulations and seasons. All Waterfowl Production Areas will be open to public hunting, provided that all forms of hunting or entry on all or any part of individual areas may be temporarily suspended by posting upon occasions of unusual or critical conditions of, or affecting land, water, vegetation, or wildlife populations. Hunting is a priority public use on National Wildlife Refuge System Lands and as of March 1999 the U.S. Fish and Wildlife Service owns a total of 171,863 acres of Waterfowl Production Areas in Minnesota. Acquisition of Waterfowl Production Areas is ongoing and as lands are purchased they will be opened to hunting of resident game and furbearers. Although open to all state seasons the majority of use occurs from mid September though the end of December. Many Waterfowl Production Areas have trails necessary to gain access from public roads and for safety reasons, in high traffic areas, parking lots of less than 1 acre are provided. This use is being proposed as: (1) "The Procedural Agreement between the Minnesota Department of Natural Resources and Service for the Coordination of the Small Wetlands Acquisition Program in Minnesota" states "it is the policy of the Regional Director to cooperate with the Department in providing habitat for resident wildlife and for public access and use, including hunting."; (2) hunting is a priority public use on National Wildlife Refuge system Lands. Waterfowl Production Areas average less than 200 acres in size and are intermingled with private and other public lands. The State of Minnesota manages resident game and furbearers over these broad landscapes and maintains healthy populations by allowing harvest of surpluses though recreational hunting.

Availability of Resources: Waterfowl Production Areas are by statute and regulation open to waterfowl hunting. These lands have been open to hunting since they were acquired and as a result access trails, parking lots, signage and other facilities, as well

as staff to enforce regulations and maintain these facilities, have been provided by the Service. With the exception of additional enforcement staff time, these facilities will be used by those who hunt resident game and furbearers as well as waterfowl.

Anticipated Impacts of the Use: Installation and use of parking areas and access trails will result in minimal impacts as these parking areas and trails are used by waterfowl hunters as well as by Service employees conducting refuge management activities. Although hunting causes mortality and temporary disturbance to waterfowl and other wildlife, harvesting populations to the carrying capacity of existing habitat insures long-term health and survival of the species. Hunting occurs well after the breeding season for waterfowl so no disturbance to this central purpose is anticipated.

Public Review and Comment: During drafting of the Comprehensive Conservation Plans six open houses were held and written comments were solicited from the public about Wetland Management District operations, including public use programs such as hunting. This determination was also included in the final draft distributed to the public for review and comment. Additionally the Service has contracted with the University of Minnesota to conduct a visitor use study of Waterfowl Production Areas in western Minnesota. This study is in its second year and will yield a wide array of public input on Service programs including hunting of resident game and furbearers.

Determination (check one below):

_____ Use is Not Compatible

__X__ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Nontoxic shot must be used in accordance with current regulations.
2. Use of motorized vehicles and water craft is prohibited except by permit or in designated parking areas, access trails or public roads.
3. Camping, overnight use and fires are prohibited.
4. All applicable State and Federal Regulations will apply.

Justification: This use has been determined compatible provided the above stipulations are implemented. This use is being permitted as it is a priority public use and will not diminish the primary purposes of waterfowl production as well as conservation of migratory birds and other wildlife. This use will meet the mission of the NWRS by providing renewable resources for the benefit of the American public while conserving fish, wildlife and plant resources on these lands.

Signature: Refuge Supervisor: _____
(Signature and Date)

Concurrence: Regional Chief: _____
(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: Irrigation travelways on Waterfowl Management Wetland Easements and/or FmHA type "C" Wetland Easements

Refuge Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authority(ies): Waterfowl Management Wetland Easements – The Migratory Bird Hunting and Conservation Stamp Act, 16 U.S.C. 718d(c); the Fish and Wildlife Act of 1956, 16 U.S.C. 742a-742j; the Emergency Wetlands Resources Act of 1986, 16 U.S.C. 3901; and the Land and Water Conservation Fund Act, 16 U.S.C. 4601-9(a)(1), authorize the Secretary of the Interior to acquire small wetland or pothole areas suitable for use as waterfowl production areas.

FmHA Easements – Consolidated Farm and Rural Development Act 7 U.S.C. §2002

Refuge Purpose(s): Waterfowl Management Wetland Easements- "as Waterfowl Production Areas" subject to "....all of the provisions of such Act (Migratory Bird conservation Act)....except the inviolate sanctuary provisions...." and "....for any other management purpose, for migratory birds"

FmHA Easements- "for conservation purposes..."

National Wildlife Refuge System Mission: To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Use: Allow irrigation travelways through wetland areas protected by an easement that prohibits burning, draining, filling, or leveling. This use of travelways in wetland areas may be permitted via four techniques: (1) Placement of 4-foot to 5-foot wide wooden beams laced together with cable in "railroad bed" style; (2) placement of 4-foot to 5-foot wide metal mats made of corrugated, expanded or punched metal; (3) removal of the muck layer not to exceed 10 foot in width in the bottom of the wetland and replacing it with sand or gravel to the natural bottom contour; (4) exposure of hard substrate by removal of the muck layer not to exceed 10 foot in width in the bottom of the wetland (only permitted in high water table wetlands). More specific details for allowing this use are found in the Service's Administrative and Enforcement Procedures for Waterfowl Management Easement Manual.

Availability of Resources: Wetland easements are currently monitored by Service employees via aerial and ground inspection to ensure that landowners comply with the provisions of the easement document. Little additional cost will be incurred to monitor this use while inspecting other easements. Additional staff, equipment, and supplies are needed to map and better monitor all easements. The individual station Comprehensive Conservation Plans detail the needed funds and staffing levels to properly monitor these easements.

Anticipated Impacts of the Use: The construction phase of the project will cause temporary disturbance to wildlife using the wetland easement areas. Installation of properly constructed travelways will result in no long-term impacts to the wetlands or

wildlife using them. Disturbance by the irrigation equipment itself is expected to be minimal due to the slow rate of movement and acclimatization by wildlife.

Public Review and Comment: During drafting of the Comprehensive Conservation Plans six open houses were held and written comments were solicited from the public related to Wetland Management District operations including easement acquisition and management operations. This determination was also included in the final draft distributed to the public for review and comment.

Determination (check one below):

___ Use is Not Compatible

__X__ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. The landowner must demonstrate that equipment and/or topography modifications cannot be accomplished to avoid wetlands, and equipment is incapable of traversing wetlands in their natural condition.

2. No pesticides, fertilizers or other compounds except water may be passed through the irrigation system while traversing the wetland area.

3. Permits to allow the use must be issued by the Regional Director, will not exceed 10 years in duration and will not be issued where groundwater withdrawal negatively impacts the water levels of surface wetlands.

4. Permits will limit construction of travelways to times of low waterfowl/ wildlife use and require Service presence during installation or subsequent maintenance activities.

5. Only travelways approved in the Service's Administrative and Enforcement Procedures for Waterfowl Management Easements Manual may be installed.

Justification: With the above stipulations, impacts of this use will be temporary during the construction phase and little to none during operation. This use will not diminish the long-term productivity of easement wetlands for waterfowl production or other wildlife. Thus, the use will not materially interfere with the waterfowl production or conservation purpose of the units.

Signature: Refuge Supervisor:_____
(Signature and Date)

Concurrence: Regional Chief: _____
(Signature and Date)

Mandatory 10- or 15 year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: Installation of Bluebird Boxes, other Nest Boxes, or Nesting Structures by Public or Groups

Station Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authorities:

The passing of Public law 87-383 (Wetlands Loan Act of 1961) established wetland districts in Minnesota. Lands are acquired under the Migratory Bird Hunting and Conservation Stamp Tax, 16 U.S.C. 718 and since 1958 under Public Law 85-585 (75 Stat. 486) for acquisition of "Waterfowl Production Areas".

Consolidated Farm and Rural Development Act 7 U.S.C. 2002.

Refuge Purpose(s): For lands acquired under the Migratory Bird Hunting Conservation Stamp Tax, 16 U.S.C. 718, as amended, the purpose of acquisition is "...as Waterfowl Production Areas" subject to "...all the provisions of such act (Migratory Bird Conservation Act) ...except the inviolate sanctuary provisions...," 16 U.S.C. 718 (c) (Migratory Bird Hunting and Conservation Stamp) "...for any other management purpose, for migratory birds." 16 U.S.C. 715d (Migratory Bird Conservation Act).

For "conservation purposes..." of FmHA fee title transfer properties.

National Wildlife Refuge System Mission: The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Use:

Allow the installation of nest structures such as bluebird nest boxes and wood duck boxes by individuals or groups on Waterfowl Production Areas throughout Minnesota. Site-by-site authorization will be made by the Refuge Manager via a letter of authorization. Requests for installing nesting structures are occasionally made by individuals and sporting groups. The majority of requests are for bluebird and wood duck boxes to be placed along roads near the edges of WPA boundaries. Some requests could be for artificial mallard nesting sites or other artificial nest sites for migratory birds. The structures are usually placed in late winter or early spring. Structures are affixed using either floating rafts (less common) or poles or posts. Structures are occasionally mounted to existing trees although this is less desirable due to increased nest predation.

In all cases, the intention of the requestors is to enhance wildlife populations through providing safe nesting sites.

Placing artificial nesting structures on WPAs is not a priority public use as defined in the Refuge Improvement Act. The use is a non-essential contributor to other priority uses such as wildlife observation, wildlife photography, and environmental education.

Availability of Resources: Installation of artificial nest structures on Waterfowl Production Areas by private individuals or groups requires minimal resources. Monitoring and maintenance of structures is required by the private individual or group as well as all associated costs of the installation. Should cooperators fail to adequately maintain the structures, there will be some cost associated with removing abandoned structures.

Anticipated Impacts on Refuge Purpose(s): The installation of artificial nesting structures has a minimal impact on the purposes for which Waterfowl Production Areas were established. Waterfowl nesting structures will increase the production of waterfowl by providing sites for nests where predators are less likely to destroy the nests. Waterfowl nests in nesting structures are far likelier to be successful than nests in uplands. Other structures such as bluebird houses will provide nesting sites for other migratory birds. Artificial nesting boxes are widely credited with helping increase the population of eastern bluebirds in North America.

There is some small, temporary wildlife disturbance caused during placement and maintenance of the structures. This disturbance is minor.

There is some aesthetic costs associated with placing artificial structures in natural settings. These costs are minimized by requiring placement of non-waterfowl structures along the edges of WPAs in areas already appearing unnatural due to fences, signs, and adjacent crop fields. Wood duck boxes and other waterfowl nesting devices are typically placed in or near wetlands, although private parties typically prefer to place the structures adjacent to roads. No access by motorized vehicles or other special access will be provided for installing nest structures.

Public Review and Comment: During drafting of the Comprehensive Conservation Plans six open houses were held and written comments were solicited from the public about Wetland Management District operations including public use programs such as the installation of artificial nesting structures. Additionally the Service has contracted with the University of Minnesota to conduct a visitor use study of WPAs in western Minnesota. This study is in its second year and will yield a wide array of public input on Service programs including wildlife nesting structures.

This determination is being made as part of a Comprehensive Conservation Plan. Additional review will occur as part of the public review of the Comprehensive Conservation Plan.

Determination:

_____ Use is Not Compatible

___X__ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Approval from Project Leader via a letter of authorization is required prior to installation.
2. Annual maintenance is required.

3. Structures may be removed upon Project Leaders' request. Some possible reasons include: lack of maintenance, poor placement, and variation from approved installation plan.

4. Ownership of any nest structure placed on any Waterfowl Production Areas by private individuals or groups will be forfeited to the Service upon installation.

Justification: Artificial nesting structures do not materially interfere with or detract from the purposes for which the units were acquired. In fact, these structures likely contribute to the purposes of Waterfowl Production Areas by providing secure nesting sites for waterfowl and other migratory birds. Nest success for ducks using artificial nest structures is higher than for ducks nesting in grasslands. Nesting boxes for cavity nesting birds like bluebirds and wood ducks can increase populations when natural cavities are scarce. At worst, nesting structures are neutral in their effect; likely there is a positive effect. The aesthetic costs of artificial nest structures are modest and can be minimized through appropriate siting.

Signature: Refuge Supervisor: _____
(Signature and Date)

Concurrence: Regional Chief: _____
(Signature and Date)

Mandatory 10-year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: Wildlife Observation and Photography (Including the means of access such as hiking, snowshoeing, cross-country skiing, and canoeing)

Station Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authorities: The passing of Public law 87-383 (Wetlands Loan Act of 1961) established wetland districts in Minnesota. Lands are acquired under the Migratory Bird Hunting and Conservation Stamp Tax, 16 U.S.C. 718 and since 1958 under Public Law 85-585 (75 Stat. 486) for acquisition of "Waterfowl Production Areas".

Consolidated Farm and Rural Development Act 7 U.S.C. 2002.

Refuge Purpose(s): For lands acquired under the Migratory Bird Hunting Conservation Stamp Tax, 16 U.S.C. 718, as amended, the purpose of acquisition is "...as Waterfowl Production Areas" subject to "...all the provisions of such act (Migratory Bird Conservation Act) ...except the inviolate sanctuary provisions...," 16 U.S.C. 718 (c) (Migratory Bird Hunting and Conservation Stamp) "...for any other management purpose, for migratory birds." 16 U.S.C. 715d (Migratory Bird Conservation Act).

For "conservation purposes..." of FmHA fee title transfer properties.

National Wildlife Refuge System Mission: The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Use:

Allow general public access during anytime of the year to Waterfowl Production Areas (WPAs) for the observation and photographing of associated flora and fauna. All WPAs will be open to the public for the observation and photography of wildlife and their habitats unless specifically closed by the manager. Allowable forms of access to WPAs include hiking, snowshoeing, cross-country skiing, canoes, and non-motorized boats. Limited access by bicycle, horses, and motorized vehicles will be allowed on designated driving routes only. Motorized boats, including those with electric motors, will not be allowed within WPAs. Wildlife observation and photography are priority public uses on National Wildlife Refuge System Lands as identified in the Refuge Improvement Act of 1997. Entry on all or portions of individual areas may be temporarily suspended by posting upon occasions of unusual or critical conditions affecting land, water, vegetation, wildlife populations, or public safety.

Access for wildlife observation and photography will allow public access and enjoyment of scenic views and an array of wildlife including waterfowl, other migratory birds, tallgrass prairie plants, and resident wildlife. WPAs provide opportunities for wildlife enjoyment not usually available on adjacent private land.

Waterfowl Production Areas will be open 24 hours per day although overnight camping will not be allowed.

Availability of Resources: Wildlife observation and photography require minimal resources. These lands have been open to public use since they were acquired. Thus, access trails, parking lots, signs, and other facilities as well as staff to enforce regulations and maintain these facilities have been provided by the Service.

Some public use facilities are sub-standard. The WMD Comprehensive Conservation Plan recognizes these problems and recommends solutions to improve public access opportunities. Some enhanced wildlife observation and photography opportunities will only be provided upon implementation of the Comprehensive Conservation Plan.

Anticipated Impacts on Refuge Purpose(s): Wildlife observation and photography pose minimal impacts on the purposes for which Waterfowl Production Areas were established. Access is typically by individuals or small groups on foot or using snowshoes or skies. Damage to habitat by walking is minimal and temporary. There is some temporary disturbance to wildlife due to human activity on the land. The most likely impact to WPA purposes would be during spring and early summer nesting and brood rearing but the expected sporadic and limited use by the public should not create unreasonable impacts. Winter activities pose no impacts to nesting waterfowl and little to impact to vegetation. The winter disturbance to resident wildlife is temporary and minor. Large groups typically use established foot trails with little impact on vegetation. Disturbance to wildlife, such as flushing a nesting bird, is inherent to these activities; however, the disturbance is temporary and generally not malicious. Any unreasonable harassment would be grounds for the manager to close the area to these uses or restrict the uses to minimize harm.

Access by motorized vehicles, bicycles, and horses is limited to established trails, public roads and parking lots. Parking lots and access trails have minimal impacts because they are relatively small in size, generally have established cover on them, and typically are mowed after the nesting season is complete. They also allow for safe use of these public lands.

Use of most WPAs for the purpose of wildlife observation and photography is minimal. The established wildlife viewing trails on a handful of WPAs are more heavily used for wildlife observation and photography but they have been designed to minimize harmful impacts.

Public Review and Comment: During drafting of the Comprehensive Conservation Plans six open houses were held and written comments were solicited from the public about Wetland Management District operations including public use programs such as wildlife observations and photography. Additionally, the Service has contracted with the University of Minnesota to conduct a visitor use study of WPAs in western Minnesota. This study is in its second year and will yield a wide array of public input on Service programs, including wildlife observations and photography.

This determination is being developed as part of the WMD Comprehensive Conservation Plan and will be subject to further public review during the review phase of the overall plan.

Determination:

_____ Use is Not Compatible

__X__ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Certain modes of access such as motorized vehicle, bicycles, and horses will be limited to designated trails, public roads, and parking lots.

2. Camping, overnight use, and fires are prohibited.

3. No photo or viewing blinds may be left over night.

4. Harassment of wildlife or excessive damage to vegetation is prohibited.

Justification:

This use has been determined compatible because wildlife viewing and photography will not materially interfere with or detract from unit purposes, including waterfowl production. The level of use for wildlife observation and photography is moderate on most WPAs. The associated disturbance to wildlife is temporary and minor. Wildlife observation and photography are priority public uses and inculcate visitors with the joys of abundant wildlife and wild lands. These uses also help fulfill the mission of the National Wildlife Refuge System. Those WPAs with increased activities generally have facilities present to accommodate the public use with minor impacts to the habitat.

Signature: Refuge Supervisor:_____
(Signature and Date)

Concurrence:Regional Chief: _____
(Signature and Date)

Mandatory 10-year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: One-time Fruits of the Soil Harvest

Refuge Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authority(ies): Waterfowl Production Areas (WPAs) - Migratory Bird Hunting Stamp Act of March 16, 1934 as amended by section 3 of the Act of August 1, 1958 (72 Stat.486, 16 U.S.C. sec. 716 d(c)), authorized the Secretary of Interior to acquire small wetland or pothole areas suitable as Waterfowl Production Areas.

FmHA fee title transfer properties - Consolidated Farm and Rural Development Act 7 U.S.C. § 2002.

Refuge Purpose(s): Waterfowl Production Areas - "....as Waterfowl Production Areas" subject to "....all of the provisions of such Act [Migratory Bird Conservation Act]....except the inviolate sanctuary provisions...." and "...for any other management purpose, for migratory birds"

FmHA fee title transfer properties – "for conservation purposes...."

National Wildlife Refuge System Mission: To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Use: Allow one-time collection of plants or their seeds for personal use.

Plants growing on WPAs provide important wildlife habitat and can also be desirable for landscaping or decorative uses. Individuals occasionally request permission to harvest seeds from WPAs in order to establish these plants on private property. The cutting and removal of some plants is occasionally requested for use in floral decorations.

Hand harvest of native prairie plant seed is used to collect seed to re-establish small plots of native plants. These plots can be for landscaping purposes or to develop habitat for wildlife. Prairie plant seed harvest occurs during daylight hours, primarily in September and October, but can occur for individual species throughout the summer.

The decorative portion of some plants can be used in floral arrangements or for other decorative purposes. Cattails (*Typha sp.*), Baby's-breath (*Gypsophila paniculata*), Asters (*Aster sp.*) and grapevines (*Vitis sp.*) are examples of some species which are occasionally used in decorative floral arrangements.

Access to harvest sites is accomplished by walking from a designated parking area or public roadway. If non-motorized watercraft are used, they should be launched at boat ramps or carried to the wetland from parking areas or public roadways.

Collection of these plants and seeds is not a wildlife-dependent recreational use. For a small number of people, this is a traditional, family oriented activity that provides an opportunity for those participating to enjoy the beauty of the natural environment.

These uses also enable people to enjoy the beauty of WPA plants in or around their homes and provides small patches of habitat for wildlife.

Availability of Resources: Waterfowl Production Areas have been open to hunting since they were acquired. As a result, access trails, parking lots, signage and other facilities as well as staff to enforce regulations and maintain these facilities have been provided by the Service. These facilities will be maintained to meet the needs of the hunting public and will be used incidentally by those who are hand harvesting plants or their seeds. This use will not require a significant increase in additional maintenance or enforcement staff expenditures. The Service will not have to provide special equipment.

Anticipated Impacts of the Use: Historically, public participation in the hand collecting of plants or seeds on WPAs was low, and future participation is also expected to be low. The quantity and frequency of hand harvesting plants or their seeds is not expected to result in significant disturbance, diminish wildlife food sources or jeopardize wildlife survival.

Short-term disturbance to wildlife may occur during these activities, but will be insignificant. Most of these uses occur in the late summer or fall, after ground nesting birds have completed the nesting season. This uses should not result in short or long-term impacts that adversely affect the purpose of WPAs or the mission of the National Wildlife System.

Public Review and Comment: Six open houses were held and written comments were solicited from the public about Wetland Management District operations during the drafting of Comprehensive Conservation Plans. This process identified 22 issues of concern. One-time Fruits of the Soil Harvest on WPAs was not identified as an issue of concern.

This Compatibility Determination was prepared concurrent with, and included in, the Draft Comprehensive Conservation Plans for Wetland Management Districts in Minnesota. Public review and comment was solicited during the CCP comment period.

Determination (check one below):

_____ Use is Not Compatible

__X__ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

- Camping, overnight use and fires are prohibited.
- Digging of plants or their roots is prohibited.
- Cutting trees or noxious weeds is prohibited.
- Grass/forb seed harvest is limited to 10 pounds.
- 20 plants per species can be cut and removed for decorative purposes.
- No threatened or endangered species may be harvested or cut.
- The use of motorized vehicles or motorized watercraft is prohibited except by permit. or in designated parking areas, access trails or public roads.

Justification: This use will have limited and localized impacts when conducted within the stipulations above. Administration of the use will require little to no administrative time or funding. This use will not diminish the primary purposes of waterfowl production, or the conservation of other migratory birds and wildlife.

Signature: Refuge Manager: _____
(Signature and Date)

Concurrence: Regional Chief: _____
(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: Placement of new, small parking areas on Waterfowl Production Areas

Refuge Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authority(ies):

Waterfowl Production Areas – Migratory Bird Hunting Stamp Act of March 16, 1934 as a amended by Section 3 of the Act of August 1, 1958 (72 Stat. 486, 16 U.S.C. Sec.716 d(c), authorized the Secretary of Interior to acquire small wetland or pothole areas suitable as Waterfowl Production Areas.

FmHA Fee Title Transfer Properties – Consolidated Farm and Rural Development Act 7 U.S.C. § 2002.

Refuge Purpose(s):

Waterfowl Production Areas – " as Waterfowl Production Areas" subject to "....all of the provisions of such Act [Migratory Bird Conservation Act].... except the inviolate sanctuary provisions...." and "....for any management purpose, for migratory birds"

FmHA Fee Title Transfer Properties – "for conservation purposes...."

National Wildlife Refuge System Mission: "The Mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

Description of Use: Allow the placement and construction of small parking areas on any Waterfowl Production Area where the Wetland Manager considers necessary to provide safe off-road parking and access to the general public for the following permitted activities: hunting of migratory birds and resident game animals, hiking, wildlife observation, photography, fishing, and/or interpretation, all priority public uses on National Wildlife Refuge System Lands. In addition, these parking areas will be used by Service personnel in conducting management activities or biological surveys and assessments on each of the Waterfowl Production Areas.

The U.S. Fish and Wildlife Service owns, as of March 1999, nearly 172,000 acres of Waterfowl Production Areas in Minnesota. Acquisition of Waterfowl Production Areas is ongoing and as new lands are acquired they will be opened to priority public uses. A procedural agreement between the Minnesota Department of Natural Resources and the Service states "it is the policy of the Regional Director to cooperate with the Department in providing habitat for resident wildlife and for public access and use (*emphasis added*), including hunting."

These parking areas will be less than an acre and will be relatively primitive facilities such as grass or gravel surfaced. Barriers to restrict motorized vehicles within the parking areas and to identify the parking area boundary generally will be constructed of wood posts, wire fence or rock barriers, appropriate and available on a site specific basis.

Availability of Resources: Waterfowl Production Areas are open to all priority public uses and as a result access trails, signage and other facilities, as well as staff to enforce regulations and maintain these facilities, have been provided by the Service. Currently the staffing levels and facilities required for public programs and accessibility on Waterfowl Production Areas do not meet Service public use standards. The individual station Comprehensive Conservation Plans detail the needed funds and manpower to bring these programs up to Service standards.

Anticipated Impacts of the Use: Installation and use of these parking areas and access trails will result in minimal impacts as these parking areas are used infrequently during most of the year by either the general public participating in authorized and permitted activities or by Service personnel. Peak use of these areas will generally occur during fall hunting seasons when no disturbance to nesting or young animals will result. Impacts to habitat will be minimal due to their relatively small size (< 1 acre) by comparison to the average size of the Waterfowl Production Area (average < 200 acres). Impacts will be lessened by selection of sites away from any wetland or native prairie. Generally, parking areas will be constructed at or near abandoned farm sites utilizing existing graveled driveways or previously constructed farm field approaches immediately off of public roadways. Parking lots constructed within the interior of a unit will be avoided when ever possible to minimize wildlife disturbance, impacts to unique or critical habitats and conflicts with other authorized public uses.

Public Review and Comment: During the drafting of the Comprehensive Master Plans, six open houses were held and written comments were solicited from the public about Wetland District Operations including public use programs. Additionally, the Service has contracted with the University of Minnesota to conduct a visitor use study of Waterfowl Production Areas in western Minnesota. This study, in its second year, will provide public input on Service programs and facilities on Waterfowl Production Areas.

Determination:

____ Use is Not Compatible

_X__Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Parking areas must not be constructed in areas where negative wetland impacts will result.
2. Parking areas must not be constructed on native prairie habitat.
3. Camping, overnight use and fires are prohibited
4. Location of parking areas within the interior of each unit should be avoided whenever possible.
5. An archaeological review of each selected site shall be made through the State Historic Preservation Officer and Regional Historic Preservation Officer prior to construction.

Justification: This use has been determined compatible provided the above stipulations are implemented. This use is permitted as it is deemed necessary to provide safe off-road access by the public to participate in appropriate and permitted priority uses and will not diminish the primary purposes of waterfowl production and the conservation of migratory birds and other wildlife. This use will meet the mission of the National Wildlife Refuge System by providing resources for the benefit of the American public while conserving fish, wildlife and plant resources on these lands.

Signature: Refuge Supervisor: _____
(Signature and Date)

Concurrence: Regional Chief: _____
(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: Short-term Upland Disturbance for Highway or Other Public Interest Projects with No ROW Expansion and Full Restoration.

Station Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authorities: The passing of Public Law 87-383 (Wetlands Loan Act of 1961) established wetland districts in Minnesota. Lands are acquired under the Migratory Bird Hunting and Conservation Stamp Tax, 16 U.S.C. 718 and since 1958 under Public Law 85-585 (75 Stat. 486) for acquisition of "Waterfowl Production Areas."

Consolidated Farm and Rural Development Act 7 U.S.C. 2002.

Refuge Purpose(s): For lands acquired under the Migratory Bird Hunting Conservation Stamp Tax, 16 U.S.C. 718, as amended, the purpose of acquisition is "...as Waterfowl Production Areas" subject to "...all the provisions of such act (Migratory Bird Conservation Act) ...except the inviolate sanctuary provisions...," 16 U.S.C. 718 (c) (Migratory Bird Hunting and Conservation Stamp) "...for any other management purpose, for migratory birds." 16 U.S.C. 715d (Migratory Bird Conservation Act).

For "conservation purposes..." of FmHA fee title transfer properties.

National Wildlife Refuge System Mission: The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Use: Allow short-term disturbance to uplands for highway or other public interest projects with no right-of-way expansion and full restoration. Every year, requests are made by state and local government agencies and utility companies to do repairs and improvements to existing road ways and utility facilities associated with existing rights-of-way on WPAs throughout Minnesota. Many of these requests require temporary work outside existing right-of-way boundaries, generally resulting in temporary disturbance to the associated vegetation. Frequently, the temporary work requested is required to reshape a slope immediately adjacent to a road right-of-way to improve transportation safety. Other times, the requested action can be merely for permission to turn around heavy equipment on land immediately adjacent to the right-of-way. Most often, the temporary work outside of the right-of-way is conducted during the summer and fall, when construction conditions are optimal. The work typically involves temporary disturbance to previously farmed uplands that are then reseeded to native vegetation by the requesting organization. This determination will allow approved work and temporary habitat disturbance outside the right-of-way boundary when long-term impacts are either beneficial or not significantly harmful.

Availability of Resources: Minimal expense is required of the Service for these projects. Authorization of the projects will require the requesting organization to cover habitat restoration costs. There is a modest administrative cost to issuing and monitoring this work.

Anticipated Impacts on Refuge Purpose(s): The impacts to the associated uplands with this use will be minimal and temporary. When the request includes unavoidable destruction of vegetation, approval will be limited to sites previously tilled or otherwise disrupted. No native prairie remnants or wetlands may be destroyed. Any areas with disturbed vegetation will be seeded by the requesting organization to a diverse mix of native species that will lead to better long-term habitat than the vegetation originally disturbed.

Most of this work occurs in summer and fall, after the waterfowl nesting season. The duration of any single project is usually 1 to 8 weeks. Occasionally, work may occur during the nesting season but the size of the disturbance zone will be minimal. The quality of the habitat in the disturbed zone may be diminished for up to 3 years following the project but the disturbed zone will provide some migratory bird value by the year following the project. The long-term productivity of the disturbed zone will frequently increase due to the replacement of exotic, less desirable cover with native vegetation.

Most of the impacts will be along existing roads in areas already subject to significant habitat and aesthetic deterioration due to existing transportation rights-of-way. Rarely, a utility right-of-way can split an otherwise contiguous block of quality habitat. In these settings, the disturbance will still be temporary but the impact to waterfowl and other migratory birds is likely greater. The existing right-of-way already authorizes disturbance within the right-of-way so the larger impact of creating a disturbance within quality habitat will likely occur anyway. The decision to authorize temporary disturbance outside the right-of-way will slightly increase the magnitude of the disturbance.

Public Review and Comment: During drafting of the Comprehensive Conservation Plans six open houses were held and written comments were solicited from the public about Wetland Management District operations including management programs such as right-of-way issues.

This determination is being considered as part of a larger Comprehensive Conservation Plan subject and will be subject to additional public review during the public review of the entire plan.

Determination:

_____ Use is Not Compatible

__X__ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. All work done outside of existing rights-of-way must be approved by the Project Leader in the form of a letter of authorization.

2. Conditions stipulated in a letter of authorization such as seeding mixes, weed control, etc. must be followed to remain a compatible use.

3. No work that leads to permanent loss of wetlands or native prairie remnants will be allowed without a site-specific compatibility determination.

Justification: This use will not materially interfere with or detract from the purposes for which the units were established with the above stipulations in place. Almost all WPAs are constrained by one or more rights-of-way that were in place before acquisition by the federal government. Temporary disturbances to land adjacent to these rights-of-way will have only small, temporary harmful effects on wildlife and may lead to improved long-term productivity by replacing degraded, exotic vegetation with vigorous native vegetation. Work within the rights-of-way is beyond the authority of the Fish and Wildlife Service to regulate other than influencing the timing and scope to minimize wildlife harm. Allowing temporary work outside the right-of-way does little or no long-term harm to wildlife resources and allows the holder of the right-of-way to provide essential human services to our rural communities. Restoration of the disturbed sites can actually increase productivity by providing more robust vegetation.

Signature: Refuge Supervisor: _____
(Signature and Date)

Concurrance: Regional Chief: _____
(Signature and Date)

Mandatory 10-year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: Placement of Wetland Accesses/Ramps in Support of Priority Public Uses

Refuge Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authority(ies): Waterfowl Production Areas – Migratory Bird Hunting Stamp Act of March 16, 1934 as a amended by Section 3 of the Act of August 1, 1958 (72 Stat. 486, 16 U.S.C. Sec.716 d(c), authorized the Secretary of Interior to acquire small wetland or pothole areas suitable as Waterfowl Production Areas.

FmHA Fee Title Transfer Properties – Consolidated Farm and Rural Development Act 7 U.S.C. § 2002.

Refuge Purpose(s): Waterfowl Production Areas – " as Waterfowl Production Areas" subject to "....all of the provisions of such Act [Migratory Bird Conservation Act].... except the inviolate sanctuary provisions...." and "....for any management purpose, for migratory birds."

FmHA Fee Title Transfer Properties – "for conservation purposes...."

National Wildlife Refuge System Mission: "The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

Description of Use: Allow the placement and/or construction of accesses/ramps on any Waterfowl Production Area where the Wetland Manager considers necessary to provide access to the general public for the following permitted activities: hunting of migratory birds and resident game animals, hiking, wildlife observation, photography, fishing, and/or interpretation, all priority public uses on National Wildlife Refuge System Lands. In addition, these ramps will be used by Service personnel in conducting management activities or biological surveys and assessments on each of the Waterfowl Production Areas.

The U.S. Fish and Wildlife Service owns, as of March 1999, nearly 172,000 acres of Waterfowl Production Areas in Minnesota. Acquisition of Waterfowl Production Areas is ongoing and as new lands are acquired they will be opened to priority public uses. A procedural agreement between the Minnesota Department of Natural Resources and the Service states "it is the policy of the Regional Director to cooperate with the Department in providing habitat for resident wildlife and for public access and use (*emphasis added*), including hunting."

These accesses will be small, single ramp structures and will be relatively primitive facilities such as grass or gravel surfaced. In rare cases where a very high level of use or site conditions dictate, the placement of a concrete ramp my be warranted.

Availability of Resources: Waterfowl Production Areas are open to all priority public uses and as a result access trails, informational and interpretive signs and other facilities as well as staff to enforce regulations and maintain these facilities have been provided by the Service. Currently the staffing levels and facilities required for public programs and accessibility on Waterfowl Production Areas do not meet Service

public use standards. The individual station Comprehensive Conservation Plans detail the needed funds and manpower to bring these programs up to Service standards.

Anticipated Impacts of the Use: Installation and use of these accesses/ramps will result in minimal impacts as these areas are used infrequently during most of the year by either the general public participating in authorized and permitted activities or by Service personnel. Peak use of these areas will generally occur during fall hunting seasons when no disturbance to nesting or young animals will result. Impacts to habitat will be minimal due to their relatively small size by comparison to the average size of the Waterfowl Production Area (average < 200 acres). Impacts will be lessened by selection of sites that minimize the need for any wetland alterations and/or avoidance of native prairie. Accesses/ramps constructed within the interior of a unit will be avoided when ever possible to minimize wildlife disturbance, impacts to unique or critical habitats and conflicts with other authorized public uses.

Public Review and Comment: During the drafting of the Comprehensive Master Plans, six open houses were held and written comments were solicited from the public about Wetland District Operations including public use programs. Additionally, the Service has contracted with the University of Minnesota to conduct a visitor use study of Waterfowl Production Areas in western Minnesota. This study, in its second year, will provide public input on Service programs and facilities on Waterfowl Production Areas.

Determination:

____ Use is Not Compatible

__x_ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Accesses/ramps must not be constructed in areas where negative wetland impacts or loss will result.

2 Accesses/ramps must not be constructed on native prairie habitat.

3. Camping, overnight use and fires are prohibited.

4. Location of ramps within the interior of each unit should be avoided whenever possible.

5. An archaeological review of each selected site shall be made through the State Historic Preservation Officer and Regional Historic Preservation Officer prior to construction.

Justification: This use has been determined compatible provided the above stipulations are implemented. This use is permitted as it is deemed necessary to provide safe off-road access by the public to participate in appropriate and permitted priority uses. The footprint of the access site is small and will not diminish the primary purposes of waterfowl production and the conservation of migratory birds and other wildlife. This use will meet the mission of the National Wildlife Refuge System by providing resources for the benefit of the American public while conserving fish, wildlife and plant resources on these lands.

Signature: Refuge Supervisor: _____
(Signature and Date)

Concurrence: Regional Chief: _____
(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: Wood Cutting/Timber Harvest

Refuge Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authority(ies):

Waterfowl Production Areas - Migratory Bird Hunting Stamp Act of March 16, 1934 as amended by section 3 of the Act of August 1, 1958 (72 Stat.486, 16 U.S.C. sec. 716 d(c)), authorized the Secretary of Interior to acquire small wetland or pothole areas suitable as Waterfowl Production Areas.

FmHA fee title transfer properties - Consolidated Farm and Rural Development Act 7 U.S.C. § 2002.

Refuge Purpose(s):

Waterfowl Production Areas - "....as Waterfowl Production Areas" subject to "....all of the provisions of such Act [Migratory Bird Conservation Act]....except the inviolate sanctuary provisions...." and "...for any other management purpose, for migratory birds"

FmHA fee title transfer properties - "for conservation purposes...."

National Wildlife Refuge System Mission: To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Use: The removal of standing or fallen trees by private individuals. This Compatibility Determination applies to all wood removal activities regardless of the ultimate use of the wood (e.g. firewood, pulp, etc.). Differences in scope and necessary equipment will occur depending on the amount and type of wood available for removal. Impacts to the purpose of the WPAs and System mission are similar regardless of why the wood is removed. This activity will only occur where the Service has determined that a management need exists to remove wood from WPAs consistent with the WPA Development Plan or other document.

Wood cutting is not a priority public use, as defined by the Refuge Improvement Act of 1997, of the National Wildlife Refuge System.

Wood removal may be done within former homesites, along existing windbreaks/ shelter belts, and in other areas on WPAs where trees are encroaching on the prairie. Harvest sites will vary in size from a portion of an acre up to several hundred acres depending on the site and management objectives.

Wood removal activities may be authorized throughout the year. Most often, wood removal activities will occur during the winter months when frozen ground will facilitate access and afford protection to underlying soils and vegetation.

The scope of the activity will be determined by the management objective for the area and by the quantity and quality of available wood. Equipment used for harvest may

range from chainsaws and axes, to traditional logging equipment such as feller-bunchers and log skidders. Access may be by snow machine, ATV, pick-up truck, farm tractor, or larger traditional logging equipment.

Harvest of wood products may be permitted on WPAs to stop, reduce, or reverse the encroachment and presence of trees on prairie habitats. The Tallgrass Prairie habitat is arguably the most endangered of all North American ecosystems, with less than 1 percent of the historic habitat remaining. Encroachment of woody vegetation due to fire suppression, absence of landscape-scale grazing, and tree planting practices continue to threaten this habitat type. Waterfowl Production Areas are established to produce waterfowl, and managing woody vegetation to enhance prairie habitat generally facilitates that purpose. In accordance with the System mission, restoration of the tallgrass prairie habitat is appropriate over most of the acreage in the Minnesota wetland districts. Managing woody vegetation is an important means to that end.

Availability of Resources: The time required to plan, issue permits, and monitor the implementation of a wood product harvest program would require the dedication of some existing staff hours to this activity. In permitting a wood products harvest, the manager has identified a management need and presumably has secured and prioritized station resources to that end.

Anticipated Impacts of the Use:
In permitting this type of activity, the potential exists to directly impact waterfowl production by displacement of birds from localized areas due to disturbance, or crushing of nests as a result of access for this activity. These impacts are easily avoided by timing of the activity in accordance with site specific characteristics. In limited and rare instances, a small number of individuals of tree-nesting species (e.g. wood duck, hooded merganser, etc.) may be displaced from a local area for obvious reasons.

Indirect impacts to waterfowl production will occur as a result of removing woody vegetation. In nearly every instance, these impacts will be positive. The removal of woody vegetation from historic prairie habitats impacts waterfowl production and the System mission by facilitating the restoration of tallgrass prairie and removing artificially created predator habitat from within the WPAs.

Access for the purpose of removing wood may impact habitat by rutting soils, destroying ground cover, creating weed seed beds, and increasing sedimentation due to runoff in nearby wetlands. These impacts can again be avoided by timing of the activity.

Public Review and Comment:
This Compatibility Determination is provided in draft form along with the Minnesota Wetland Management Districts' Comprehensive Conservation Plan and Environmental Assessment. Opportunity for public review and comment is concurrent with the public review process for the EA.

Determination (check one below):

_____ Use is Not Compatible

__X__ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Work will generally be restricted to areas where soil types indicate that pre-settlement habitat was comprised of native prairie vegetation.
2. If work is in an area where waterfowl nesting is likely, no cutting operations will be permitted from April through July 15.
3. Vehicle access for wood removal will be limited to existing trails or restricted to the frozen ground period when rutting and damage to growing vegetation would occur.
4. A special use permit will be issued so that site specific impacts can be reduced or eliminated and Service management goals are met.

Justification: Any direct impacts on waterfowl production (take, disturbance, etc.) can be largely avoided by timing the activity so that it is not coincident with the waterfowl production season. Removal of trees in certain instances will, on occasion, eliminate wood duck, hooded merganser, or other cavity-nesting species habitat. This would be an irregular and occasional impact and, since most wood harvest will be associated with restoration sites, it is unlikely that these areas would have provided historic nesting sites. Due to the benefits that would be realized by other waterfowl species, and the abundance of artificial and natural nest sites for cavity-nesting species in the area, these impacts would not significantly detract from the WPAs' purpose or System mission.

Impacts to the habitat as a result of access to WPAs for wood removal purposes are potentially significant, but also easily avoided. Areas where woody species are removed for the purpose of conversion of the habitat type to prairie will likely receive follow-up treatments of burning, farming, or both. Ground disturbance in these areas is less problematic and possibly desirable depending on the specific site. Access to and from these areas will need to be carefully controlled (via special use permit) to avoid impacts such as rutting and increased sedimentation in area wetlands due to run-off. If existing roads are not present, access can be restricted to periods of frozen ground to avoid or minimize impacts to underlying vegetation and soils.

Other indirect impacts are generally considered positive and thus do not materially interfere with or detract from the purpose of waterfowl production or the System mission. The removal of trees along trails, in shelter belts, and within old home sites will benefit waterfowl production by assisting with the restoration of prairie habitat and eliminating predator habitat and perch sites. Individuals participating in the wood harvest program will be under special use permit and thus site specific stipulations will ensure resource protection and achievement of management goals. Control of woody species encroachment on prairie habitats is a necessary management activity for the Minnesota wetland districts in converting areas back to their historical grassland condition and directly supports the mission of the National Wildlife Refuge System.

Signature: Refuge Manager: _____
(Signature and Date)

Concurrence: Regional Chief: _____
(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date:

DRAFT COMPATIBILITY DETERMINATION

Use: Trapping of Furbearers

Refuge Name: Minnesota Wetland Management Districts

Establishing and Acquisition Authority(ies):
Waterfowl Production Areas – Migratory Bird Hunting Stamp Act of March 16, 1934 as amended by section 3 of the Act of August 1, 1958 (72 Stat.486, 16 U.S.C. sec. 716 d(c)), authorized the Secretary of Interior to acquire small wetland or pothole areas suitable as Waterfowl Production Areas.

FmHA fee title transfer properties – Consolidated Farm and Rural Development Act 7 U.S.C. § 2002.

Refuge Purpose(s):
Waterfowl Production Areas – "....as Waterfowl Production Areas" subject to "....all of the provisions of such Act [Migratory Bird Conservation Act]....except the inviolate sanctuary provisions...." and "...for any other management purpose, for migratory birds"

FmHA fee title transfer properties – "for conservation purposes...."

National Wildlife Refuge System Mission: "The Mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

Description of Use: Public trapping of resident furbearers on Waterfowl Production Areas (WPA) in Minnesota in accordance with State regulations. This Compatibility Determination does not apply to "commercial" trapping activities where the Service awards a contract, or permit, for the removal of a specie or species to facilitate management, i.e. the Service needs 3,000 muskrats removed from an area to protect a dike system.

Trapping is not a priority public use, as defined by the Refuge Improvement Act of 1997, of the National Wildlife Refuge System.

By regulation (50 CFR 31.16), lands acquired as WPAs are open to public trapping unless closed under the authority of 50 CFR 25.21. Within the Minnesota wetland management districts, only eight WPAs have been closed to trapping: three in the Detroit Lakes District and five in the Fergus Falls District. Using 1999 data, trapping is permitted on approximately 170,000 acres of WPAs in Minnesota. Trapping is permitted for a wide variety of species; however, mink, racoon, muskrat, red fox, and beaver are the primary target species. As a result, most trapping activity on WPAs is concentrated in wetland areas.

The Minnesota Department of Natural Resources maintains information on numbers of trappers, harvest, and population trends of furbearers on a statewide basis. Based on license sales and mail surveys of licensees, it is estimated that approximately 4,100 people participated in trapping during the 1999-2000 season on a statewide basis. A

percentage of these trappers use WPAs. The trend in the number of people participating in trapping in Minnesota is down, and it is assumed that activity on WPAs mirrors the statewide trend. For the 3-year period ending in 1988, the annual estimated average number of trappers was more than 13,700. For the 3-year period ending in 2000, this number had declined to less than 5,300.[1]

Trapping seasons for various species of wildlife generally run from mid-September through mid-March, with beaver trapping extending until mid-May. Several species of unprotected mammals (weasel, coyote, striped skunk, gophers, and porcupine) may be trapped on a year-around basis. While State regulations technically permit such activity, there is no known trapping activity, excluding March and April beaver trapping, outside of the traditional winter "season." Minnesota regulations have established trap tending hours of 5 a.m. until 10:00 p.m.

Trappers may utilize leghold traps, snares, and body-gripping ("Conibear"type) traps for the purpose of trapping various furbearers, small game, and unprotected species of wildlife. Each method is qualified under State regulation as to trap size and types of allowable sets in order to protect non-target species, and provide for the safe use of the area by others.
Access for trapping on WPAs is almost exclusively by foot. Walking and snowshoeing are the primary means of access. When conditions allow, some limited, non-motorized boat access may occur for the purpose of trapping. Travel on WPAs by highway vehicles, ATVs (3 and 4-wheelers), and snowmachine is prohibited at all times. Many WPAs have parking lots to facilitate all allowed public uses, including trapping.

Availability of Resources:
There is no incremental increase in administering this activity, as allowed, above the stations' general operating costs that we can attribute directly to the public trapping program.

Anticipated Impacts of the Use:
Public trapping can potentially impact the waterfowl production of WPAs through both direct and indirect impacts. Direct impacts are those where there is an immediate cause and effect relationship between the activity and the resources required to fulfill the waterfowl production purpose and System mission. Direct impacts may include such effects as killing or displacing of waterfowl during the pair bonding/ nesting season, or destruction of nests by trampling. Indirect impacts are those where the effects of the permitted activity affect other populations or habitats that in turn have direct impacts on waterfowl production and the System purpose. Indirect impacts may include catch of target and non-target species that are predators on waterfowl and/or nests, or removal of species that induce habitat change (i.e. beaver). Impacts, either direct or indirect, may be negative, neutral, or positive.

Because of the temporal separation of trapping activities and waterfowl using the areas for production, direct impacts to waterfowl production by trappers is negligible. Beaver trappers using WPAs after early March, undoubtedly disturb individuals on occasion, and cause temporary displacement of waterfowl from specific and limited areas. These impacts would be occasional, temporary, and isolated to small geographic areas. Any habitat change as a result of the physical impacts of trapping activity (trampling, etc.) is undetectable and insignificant.

Indirect impacts to waterfowl production do result from the removal of animals under a trapping program. In many instances, these impacts are positive. Many species that may be trapped are predators on waterfowl at various stages in the production cycle. Controlling populations of predators on waterfowl has generally positive impacts on the waterfowl purpose which vary in significance among areas. Timing of the removal of predators, size of the WPA, and adjacent land use all affect the degree to which predator management, through a public trapping program, benefits waterfowl production.

Impacts to waterfowl production habitat occur as a result of removal of species such as beaver and muskrat. Due to the societal requirements to intensively manage water levels on WPAs, managing beaver and muskrat populations at reasonable levels through a public trapping program results in positive impacts to waterfowl production and minimizes the need to commit Service resources to the same end.

When considering impacts to the System mission, impacts also include those to the furbearer populations themselves. Individual animals are harvested and removed, yet data indicates these furbearer populations, with the exception of red fox, are increasing. The red fox population has shown a slight decline in the western and southern portions of the state for roughly the past 8 years. Concurrently, the red fox estimated trapping harvest has declined from over 20,000 annually through the mid-1990s, to less than 10,000 for the past two seasons.[1] In spite of the recent decline, the red fox population is comparable to that of the mid-1980s. Minnesota DNR still considers the red fox population healthy, and views slowly declining populations in the south and west as an effect of a slowly increasing coyote population in this same area and not a result of trapping.[2]

Public Review and Comment:
This Compatibility Determination is provided in draft form along with the Minnesota Wetland Management Districts' Draft Comprehensive Conservation Plan and Environmental Assessment. Opportunity for public review and comment is concurrent with the public review process for the EA.

Determination:

____ Use is Not Compatible

__X__ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:
- Trapping activity must be conducted in compliance with existing State regulations.
- Trappers must comply with existing WPA access and use regulations.

Justification:
Direct impacts to the waterfowl production purpose are negligible due to the temporal separation of most trapping activity and the use of WPAs by waterfowl for production. Limited disturbance of individuals and pairs undoubtedly occurs from beaver trapping activity occurring after early March. These temporary and isolated disturbance events result in temporary displacement of birds from a specific location. Due to the duration of these events, the small number of individual waterfowl involved, and the limited geographic area impacted by the presence of one or a few individuals, these impacts on waterfowl production and the System mission are negligible.

Indirect impacts to waterfowl production occur as a result of the effects of trapping on the target, or non-target, species' populations. Most species of interest to trappers and common "non-target" catches (i.e. skunk, free-ranging house cat) are predators on waterfowl at some point in the production cycle. Management of red fox, racoon, mink, otter, and skunk populations, through a regulated trapping program is, at worst, a neutral impact, and likely a positive one in most cases on the waterfowl production purpose. Due to edge effects and concentrations of nesting waterfowl, the impacts of predator management are likely inversely related to WPA size. The average size of Minnesota's WPAs is less than 200 acres. In these small parcels, the effects of only a few individual predators can be highly significant on waterfowl production in the local area. Timing of the removal of predators also affects the impact that this activity has on waterfowl production. Again, depending on the time of year, impacts on waterfowl production may be neutral or positive. While there is considerable debate about the effects of the presence of coyotes on waterfowl production, the density and subsequent harvest of coyotes through the trapping program is insignificant. Likewise is the harvest of other species that are permitted under State regulations (i.e. gray fox, badger, opossum, martin, fisher, otter, bobcat).

Other indirect impacts on waterfowl production occur as a result of the manipulation of populations of species that affect habitat. Beaver and muskrat, by their nature, affect habitat that, in turn, may affect waterfowl production. Upon initial analysis, we often think of beaver and their wetland construction activities, and muskrat with their propensity to maintain open water, as beneficial to waterfowl production. In exceptionally large marshes and in pre-settlement times, this is/was likely the case. However, the landscape of western and southern Minnesota has been so altered through agricultural conversion that few historic ecosystem functions remain intact. Other than the fact that water continues to flow downhill, the hydrology of this landscape bears little resemblance to its pre-settlement conditions. Dikes, levees, roads, culverts, tile lines, pumps, and water control structures work to move and confine water with calculated purpose. Ramifications of disruption to this system can include private property damage, public safety hazards, disgruntled neighbors, and legal liability. As a result, the U.S. Fish and Wildlife Service intensely manages water on WPAs to provide for waterfowl production and to fulfill the mission of the National Wildlife Refuge System, while remaining within societal constraints. Left unchecked, beaver activity results in disruption to the water flow when culverts and water control structures are blocked. High muskrat populations are detrimental to levees and dikes as individuals burrow into these structures and compromise the structural integrity. Without the ability to control water levels, our waterfowl production purpose would suffer as would our ability to contribute to the System mission. A public trapping program facilitates management of beaver and muskrat populations at such levels that many benefits created by these species are realized, yet the ability of the Service to manage water levels is not compromised. On a statewide basis, beaver harvest has remained fairly stable over the past decade in spite of the decline in the number of trappers participating in the activity. The muskrat harvest fluctuates widely driven by fur prices and the natural fluctuations in muskrat populations.

Overall, trapping is a very minor public use of WPAs but is an important management tool in localized areas. The public trapping program on WPAs allows for public opportunity and management of furbearer populations. Consistent with the System mission, trapping on WPAs results in management of populations and is not a "control" program intending to eliminate components of the ecosystem for the benefit of others. Data from the State of Minnesota, DNR, on trapping activity and wildlife populations indicates removal of individuals, under the current management scheme is not resulting in harm to the target populations. The public trapping program, as

managed, does not materially interfere with or detract from the Service's ability to meet our purpose of waterfowl production or the mission of the National Wildlife Refuge System.

Signature: Refuge Manager: _____
(Signature and Date)

Concurrence: Regional Chief: _____
(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date:

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[1] Dexter, M.H., compiler. 2000. Status of wildlife populations, fall 2000. Unpub. Rep., Division of Wildlife, Minn. Dept. Nat. Res., St. Paul, Minnesota. 180pp

[2] Berg, B., Minn. Dept. Nat. Res., Grand Rapids, Minnesota. Personal Communication.

Appendix G: RONS Lists

Litchfield Wetland Management District

RONS No.	Title	First Year Cost	Recurring Base ($000)
00042	Enhance Wetland Management District Biological Program (biologist)	139	74
00101	Improve upkeep of wildlife management and public use facilities	74	74
00061	Enhance Wetland Management District management program	60	27
00046	Purchase tools and equipment for maintenance of Refuge equipment	105	7
00027	Purchase three native grass drills	52	
00102	Restore wetlands on newly acquired lands	38	
00047	Initiate education, outreach, and volunteer programs (education specialist)	118	53
00020	Construct parking lots to eliminate safety hazards to refuge visitors	254	11
00045	Construct maintenance/storage facility for Service owned equipment	178	15
00022	Clean up hazardous building sites on Refuge (WPA) lands	173	10
00015	Improve station safety and security of station supplies and buildings	29	2
00007	Upgrade Prescribed Fire Management	149	3
00017	Restore backlog of restorable wetlands on refuge lands	89	
00028	Purchase environmental education materials	28	
00025	Reestablish native prairie ecosystem on 1,000 refuge acres	210	
00008	Control invading species in grasslands	162	
00100	Detect and eliminate habitat destruction and unauthorized uses on Refuge lands	50	
00029	Hire Interpretive Specialist/Volunteer Coordinator	141	76
00044	Control exotic thistle species135 10		
98015	Improve detection of violations on Refuge and Easement lands	26	
00001	Develop baseline Refuge habitat data for Geographic Information System	171	76
00004	Convert former crop land to Tallgrass Prairie habitat	184	35
00026	Erect 1,000 mallard nest structures	149	11
00002	Restore wetlands on newly acquired lands	43	40
97026	Detect and eliminate habitat destruction and unauthorized uses on Refuge lands	136	64
00037	Inventory Refuge plant and wildlife resources	108	
00011	Increase cooperative wildfire suppression	56	23
00034	Provide equipment for waterfowl census	42	
00009	Coordinate FWS activities with ecosystem partners	141	76
00099	Enhanced wetland easement enforcement program	20	20
00013	Develop and conduct hydrological monitoring and assessment on District lands	141	76
00030	Improve public recognition and support through placement of professional displays in public buildings	93	11
00036	Conduct wildlife and habitat surveys and censuses	130	260
00021	Construct parking lots on McLeod, Renville, and Todd County refuges (WPAs)	60	6
00005	Large wetland restoration partnerships	139	64
00018	Construct visitor parking lots on Kandiyohi County refuges (WPAs)	187	23
00006	Expand private lands prairie restoration1	97	47
00031	Develop prairie wetlands wildlife trail1	51	10
00019	Construct visitor parking lots on Stearns County refuges (WPAs)	178	15

RONS No.	Title	First Year Cost	Recurring Base ($000)
00035	Construct boundary fences on six Wright County Waterfowl Production Areas	43	
00012	Survey cultural resources on the WMD	60	25
00002	Enhance biological monitoring	221	91
00014	Develop facilities for priority public uses	160	10
00024	Comply with state and federal noxious weed laws	49	

Appendix H: Existing Partnerships

Appendix H: Existing Partnerships

All the Wetland Management Districts have an extensive network of partnerships covering the counties within their management areas. Partners include:

Minnesota Department of Natural Resources
- Area Wildlife Managers
- Area Fisheries Managers
- Area Hydrologists
- Trails and Waterways Specialists
- Waterfowl Specialists
- Prairie Biologists
- Ecological Services Specialists

County Soil and Water Conservation Districts
Natural Resource Conservation Service
USGS - Biological Resources Division
U.S. Army Corps of Engineers
Local Watershed Districts
Farm Service Agency
County Commissions
County Land and Resource Offices
Township Boards of Supervisors
City Governments
Ducks Unlimited
Minnesota Waterfowl Association
Pheasants Forever Chapters
Minnesota Deer Hunters Chapters
Izaak Walton League
The Nature Conservancy
Minnesota Wildlife Federation
White Earth Chippewa Tribe
Lake Associations
Local Sportsmen and Conservation Organizations
Local School Districts
Regional Universities and Colleges

Other Programs

The Wetland Management Districts support and benefit, or are benefitted by other programs which are presented under the categories of: Federal, State, Local, and Private Habitat Restoration and Preservation Mechanisms.

Federal Mechanisms

North American Waterfowl Management Plan (Prairie Pothole Joint Venture)

The North American Waterfowl Management Plan (NAWMP), signed in 1986, outlines a broad framework for waterfowl management strategies and conservation efforts in the United States, Canada, and Mexico (for additional information see section 3.9.3.1). The NAWMP is designed to reach its objectives through key joint venture areas and state implementation plans within these joint ventures. The Wetland Management

Districts of Western Minnesota (Districts) are located in the U. S. Prairie Pothole Joint Venture (PPJV) area. The PPJV was identified in the NAWMP as the highest priority Joint Venture area in the United States and Canada.

Partnerships play a key role in funding the PPJV. During the PPJV's first seven years, partners raised more than $139,386,609 to protect, restore, or enhance more than 1,896,310 habitat acres. Additionally, the North American Wetlands Conservation Act (NAWCA) has been a major source of funding for PPJV projects and has provided 20 grants to projects in Minnesota and Iowa from 1991 through 1996. The two recent projects that fall within the Districts are described in the following paragraphs.

A 1996 NAWCA $1 million grant and $2.3 million in partner funds to aid restoration of tallgrass prairie and wetlands in 19 northwestern Minnesota counties of the Red River Basin. The 10 year project will be administered by The Nature Conservancy.

Prairie Heritage Project - Proposal for $1 million NAWCA grant in April 1997 for the acquisition of native grassland tracts that are adjacent or in proximity to existing and/or restorable wetlands in Minnesota. If approved, Pheasants Forever would administer the grant along with partner dollars totaling $2.15 million in late 1997.

Endangered and Threatened Species Recovery Program

Partners in Flight Program for Migratory Neotropical Birds

USFWS Ecosystem Planning

The northern tallgrass prairie has been identified as one of its top priorities within the Service's Upper Mississippi/Tallgrass Prairie and Mississippi Headwaters/Tallgrass Prairie ecosystem plans. These plans are intended to assist the Service identify resource priorities and action strategies necessary to meet trust responsibilities within specified geographic areas.

COE Red River EIS

The U.S. Army Corps of Engineers is involved in a major Environmental Impact Statement involving water retention sites in the Red River Watershed working with the Red River Watershed Management Board and member watershed districts in Minnesota.

National Water Quality Assessment

The Red River Basin is one of 60 hydrologic systems being assessed by the U.S. Geological Survey through the National Water Quality Assessment program (NAWQA). The basin was selected because its water is of vital importance to the region's economy, and of international concern. NAWQA is using a multidisciplinary approach to assess water quality. The ecology of aquatic biological communities is one of the disciplines for the assessment.

Conservation Reserve Program (CRP)

U.S. Department of Agriculture (USDA). Pursuant to the Conservation Title of the Food Security Act of 1985 (Farm Bill) and later versions of that bill, the program sponsors activities designed to provide protection of soil and water quality through direct payments to farmers for retiring eligible cropland and environmentally sensitive lands for a period of 10 to 15 years. The program encourages protection of highly erodible uplands and filter strips along wetlands, which can reduce pesticide and sediment runoff.

FSA CRP Conservation Priority Areas

The Minnesota State FSA Committee, in conjunction with the State Technical Committee, received approval for the Lake Agassiz Interbeach Area to be designated a State Conservation Priority Area (CPA) for implementing the Conservation Reserve Program (CRP) in Minnesota. Approval came in accordance with guidance provided in FSA CRP Notice 269. A National CPA was designated for the prairie pothole area bordering the Lake Agassiz Interbeach Area. The CPA's will maximize benefits to wildlife and their associated habitats by protecting and enhancing state, Federal, and locally threatened, endangered or candidate listed species of concern, and native plant communities, and, by restoring and enhancing biologically significant terrestrial and aquatic habitats.

Wetland Reserve Program (WRP)

U.S. Department of Agriculture (USDA). The 1996 re-authorization of the Farm Bill reestablished a Wetlands Reserve Program that provides financial incentives for restoration and protection of up to 975,000 acres through long-term agreements. Easements are for 30 years or more, depending on the maximum amount of time allowed by state law, and provide landowners with 75 percent to 100 percent cost-sharing for permanent easements, 50 percent to 75 percent for 30 year easements and restoration cost-sharing agreements.

Set-aside Programs

Farmers participating in Federal price support programs have been required to set aside a certain percentage of their base acreage in most years. Conservation measures are required to provide soil erosion protection, water quality enhancement, wildlife production, and natural beauty. Millions of acres of cropland are retired each year often benefiting wildlife.

Environmental Quality Incentives

U.S. Department of Agriculture (USDA). A new program which combines the functions of the Agricultural Conservation Program, Water Quality Incentives Program, Great Plains Conservation Program, and the Colorado River Basin Salinity Control Program. EQIP is funded at $200 million annually to encourage the establishment of long-lasting conservation practices that will conserve soil, water, forest, and wildlife resources. Livestock-related conservation practices will receive 50 percent of program funding. The program provides cost-sharing to farmers up to 75 percent of the cost of conservation practices with a maximum payment to any one person of $10,000 annually, and to $50,000 for the life of the contract.

Wildlife Habitat Incentives Program (WHIP)

USDA. WHIP, authorized in the Federal Agriculture Improvement and Reform Act, is a new voluntary program for people to develop and improve wildlife habitat on private lands. It provides both technical assistance and cost sharing to help establish and improve fish and wildlife habitat. Participants who own or control land work with the USDA (Natural Resources Conservation Service) to prepare and implement a wildlife habitat development plan. The Natural Resources Conservation Service provides technical and financial assistance for the initial establishment of wildlife habitat development practices. In addition, if the landowner agrees, State wildlife agencies or private organizations may also provide expertise or additional funding to help complete a project.

FmHA Wetland-Related Programs

U.S. Department of Agriculture, Farmers Home Administration. Building on an earlier program prompted by E.O. 11990, the 1990 Farm Bill requires the USDA to

establish perpetual conservation easements on wetlands in the FmHA inventory of foreclosed farmland. The act also allows for cancellation or reduction of debt in exchange for conservation easements on wetlands.

Partners for Wildlife Program

U.S. Department of Interior, Fish and Wildlife Service (Service). Drawing on several legal authorities, the Service effort assists private landowners voluntarily restore converted and degraded wetlands and associated upland habitats. The Service provides technical assistance and cost-sharing to complete the work if the landowner agrees to maintain the area for a period of 10 years. The program focuses on restoring and enhancing habitats that provide wildlife, fisheries, water quality, aesthetic, and recreation benefits.

Appendix I: Glossary

Appendix I: Glossary

Block Size	Block size is the term used to describe the size of a contiguous piece of wildlife habitat. A block may have more than one kind of habitat; for example, grassland and wetlands, but not developments such as plowed agricultural fields. A large block size for grassland nesting birds could be 2,000 to10,000 acres depending on the species of bird.
Brood parasites	In the prairie, the main brood parasite of grassland birds is the cowbird. Female cowbirds do not build their own nest, they lay eggs in the nests of other birds. Often the young cowbirds will push other nestlings from the nest and will dominate the time and care of the foster parents. Cowbirds are attracted to woodlands and have the greatest impact on grassland birds that nest near woodlots.
Comprehensive Conservation Plan (CCP)	The National Wildlife Refuge System Improvement Act of 1997 requires that each refuge must be managed in accordance with an approved CCP that will guide management decisions and set forth strategies for achieving refuge purposes and contributing to the mission of the Refuge System.
Conservation Reserve Program (CRP)	A U.S. Department of Agriculture program that takes highly erodible or environmentally sensitive cropland out of production for 10 to 15 years. Farmers receive annual rental payments and most of the erodible land is planted in perennial grasses and grass/legume mixtures.
Cool-season grass	Grass species that green early in the spring and flower before July. Often these plants are dormant during the heat of the summer. Most cool-season grasses are not native to the prairie ecosystem.
Edge effects	When ground nesting birds nest near habitat edges, their chances for success are reduced because the nest is easy to locate for predators and nest parasites. Predators such as hawks, fox, skunk, and raccoon and nest parasites such as cowbirds, hunt along habitat edges. This “edge effect” has been observed at the interface of woodlands and grasslands, grasslands and water, and roads and grasslands.

Federal Trust Species	Species that cross state and international boundaries or are afforded national protection through various laws and treaties, such as the Migratory Bird Treaty Act and the Endangered Species Act. The well-being of waterfowl populations is a classic Federal trust responsibility and the main purpose for the creation of the Small Wetland Acquisition Program in the 1960s.
Fragmentation	The process by which habitats are broken up into smaller, isolated parcels dominated by human activity is called habitat fragmentation. Habitat fragmentation reduces an ecosystem's biological diversity because small, isolated patches of habitat have fewer species than larger, less isolated patches. In the prairie grasslands, fragmentation occurred when the prairie was converted to agriculture.
Forbs	Flowering plants that are not grass-species, usually they are broad-leaved, green plants with attractive flowers.
Goal	For the purpose of the Comprehensive Conservation Plan, "goals" are defined as broad, open-ended statements of desired future conditions (vision) that convey a purpose, but not measurable units. These are directional statements for a specific program, often qualitative and expressed in terms of benefits. They have been described as "where the rubber meets the sky."
Grassland	Habitat that is dominated by grass, but may contain hundreds of other species of plants such as flowering asters and legumes. "Grassland" is a term that is used to describe planted cover, as well as natural virgin prairie. The term does not imply that the habitat is natural.
Lucustrine Wetland	Deep water lakes and reservoirs. The Lucustrine System is a deepwater dominated system, and includes standing waterbodies like lakes, reservoirs, and deep ponds.
Mesic (dry-mesic, wet-mesic)	This term is used to describe species that occur where there is an average level of moisture within a habitat. The land is not too dry or too wet. Usually, it refers to the nature of the entire area; for example, mesic prairie.
Objective	For the purpose the Comprehensive Conservation Plan, the term, "objective" is defined as, a concise statement of what will be achieved (specificity), how much will be achieved (quantified), when it will be achieved (time bound), and who is responsible for the

	work (accountability). Objectives are where the rubber meets the road.
Project	For the purpose of the Comprehensive Conservation Plan, the term, "project" is defined as a work plan proposal that shows budget and staff time needed to implement a strategy.
Pulustrine Wetland	Shallow water wetlands. The Pulustrine System encompasses the vast majority of the country's inland marshes, bogs and swamps and does not include any deepwater habitat.
Riverine	The Riverine System is limited to freshwater river and stream channels and is mainly a deepwater habitat system.
Refuge Operation Needs System (RONS)	This is the system that is used within the U.S. Fish and Wildlife Service to identify projects to be included for possible future funding. When money becomes available from a variety of sources, it can be used to address identified RONS projects.
Strategy	For the purpose of the Comprehensive Conservation Plan, the term, "strategy" is defined as a solution or approach to achieving an objective (more detailed and often includes the how).
Warm-season grass	Grass species that green later in the spring, often reaching their peak growth in the warm summer months and flower in July. Many native bunch grass species such as big-blue stem and little-blue stem are warm season grasses.
Waterfowl Production Areas (WPA)	Upland grasslands and wetlands that are purchased by the Federal government to provide nesting habitat for waterfowl and hunting areas for waterfowl and upland game hunters.
Waterfowl	The group of water birds, known scientifically as Anseriformes, including ducks, geese and swans. Many state hunting regulations also refer to cormorants which are not truly a member of the waterfowl group. Cranes, grebes, herons and pelicans are also not waterfowl.
Wetland	Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For the purposes of this classification, wetlands must have one or more of the following three attributes: 1) at least periodically, the land

supports predominantly hydrophytes (water plants); 2) the substrate is predominantly undrained hydric soil; and 3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year (Cowardin, et al. 1979).

Wetland Management Districts (District)

The Federal administrative unit that is charged with acquiring, overseeing and managing the Waterfowl Production Areas and easements within a specified group of counties. Most Districts are large, covering several counties.

Appendix J: Bibliography

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Appendix L: Guidance for Acquisition

U.S. Fish and Wildlife Service (Service) - Region 3
Strategic Growth of the Small Wetland Acquisition Program (SWAP)
Guidelines for Fee and Easement Purchase

Introduction

Project Leaders on Wetland Management Districts (WMD) within the major waterfowl breeding habitats of the United States are charged with the responsibility to identify tracts of land that meet the goals of the SWAP for inclusion in the National Wildlife Refuge System (NWRS). Of all the responsibilities Project Leaders carry, identifying lands to include in the NWRS has the longest lasting implications and is by far the most important.

The main goal of the SWAP has been, and still is, to purchase a complex of wetlands and uplands that provide habitat in which waterfowl can successfully reproduce. The basic concept has been to purchase in fee title key brood marshes that include adequate nesting cover on adjacent uplands while protecting under easement surrounding temporary and seasonal wetland basins as breeding pair habitat. It is important that lands purchased under the SWAP are the **preeminent waterfowl production habitats** within a Wetland Management District.

Delineation of lands for purchase as waterfowl production habitat is as much an art as it is a science. This requires meshing the opportunity to purchase and manage a particular tract of land with the biological needs of breeding waterfowl in a socially acceptable, cost effective and efficient manner.

History

The SWAP began in 1958 and accelerated rapidly in the early 1960's with passage of the Wetlands Loan Act. The original 1960's delineations were prepared for each fee title parcel based on their suitability to provide brood rearing habitat for waterfowl. These delineations designated wetlands as priority A, B, and C for fee title purchase. These tracts had few upland acres and only existing wetlands with no drainage facilities were considered for fee or easement purchase. In some locations, these original delineations have been reevaluated and revised. In Minnesota, a 1974 exercise produced maps showing proposed boundaries of each fee title delineation, as well as wetlands within a two-mile radius that were eligible for easement purchase. A 1984 effort produced maps of "significant wetland areas" for fee title purchase. Although dated, these efforts were biologically sound and provide valuable information in deciding which properties to purchase today.

Over the years our understanding of breeding waterfowl biology has increased and the landscape of the Upper Midwest has changed dramatically. The SWAP itself has evolved to include purchase of drained wetlands, increased upland acreage, and grassland easements along with new counties that include lands within intensely agricultural and urbanized landscapes.

Since the inception of the SWAP, most State Fish and Wildlife Agencies in primary waterfowl breeding habitats also conducted land acquisition programs that protected wetlands for waterfowl production.

In recent years, many new programs have been launched by Service partners that compliment the SWAP including U.S. Department of Agriculture's Conservation Reserve Program (CRP), Conservation Reserve Enhancement Program (CREP), Wetland Reserve Program (WRP), Farmers Home Administration Inventory and Debt Restructure programs, State programs such as Reinvest in Minnesota (RIM) and the Permanent Wetland Preserve (PWP), as well as non government organization programs such as The Nature Conservancy (TNC) Preserves. In addition, the Service has recently established National Wildlife Refuges to protect native prairie tracts over an area that is closely aligned with the Prairie Pothole Region.

Project Leaders must consider these program changes when determining which lands to purchase under the SWAP.

Biological Considerations

The following guidelines for the SWAP have been developed with the goal of directing acquisition of waterfowl production habitat for prairie nesting species ducks.

As one moves through the major waterfowl breeding habitats from Wisconsin to Iowa to Montana, the primary biological factor limiting waterfowl production varies with the landscape. In Iowa and southern Minnesota, the simple lack of any wetlands or upland cover tends to limit the occurrence of breeding waterfowl. In parts of Wisconsin, Michigan and western Minnesota, the low number of temporary and seasonal wetlands and diminished upland cover limit the number of breeding pairs that settle and successfully nest. In the parts of the eastern Dakotas where the wetland base is fairly intact, breeding waterfowl settle, but production can be limited by the lack of secure upland cover. In the central Dakotas and northern Montana, generally the wetland base and grassland cover are sufficient to attract and insure adequate nest success rates for breeding waterfowl populations. Acquisition programs should focus on providing the missing components for that particular landscape.

The first credo of breeding waterfowl habitat is "the abundance of wetlands (especially temporary and seasonal) within a given landscape during the spring/summer correlates directly with the number of breeding duck pairs."

The second credo of breeding waterfowl habitat is "as grassland acreage (idle grassland, hayland, pasture, road rights-of-ways, etc.) within a given landscape increases, waterfowl nest success increases.

The third credo of breeding waterfowl habitat is "as the predator component within a given landscape approaches the naturally occurring compliment (i.e., coyotes vs. red fox), waterfowl nest success increases."

When delineating lands for purchase under the SWAP, Project Leaders must view current conditions as well as anticipated future developments. Since the home range of most prairie nesting species of waterfowl covers roughly four-square miles, delineations need to be viewed as part of a larger landscape within a two-mile radius. The "perfect" 4-square mile tract would consist of a complex of

wetlands spread across the landscape intermingled with greater than 30% grassland cover on the uplands and few, if any, trees or forested areas. The wetland complex on this "perfect" 4-square mile landscape would be made up of four or more larger brood marshes and 150 or more temporary and seasonal wetlands.

Delineation Criteria for Fee Title Purchases

Delineations will be prepared to show the eventual boundary of a Waterfowl Production Area after all tracts have been acquired.

Size of WPA: 80 - 1,000 acres

Upland/Wetland Ratio: 4:1

Wetland Types: Delineate only a wetland complex. This complex will have at least one PEMF brood marsh of significant size. There must be a scattering of PEMA and PEMC wetlands throughout the area.

Soils: Heavy, fertile, alkaline clay loam, or loam Mollisol soils. These soil types evolved under geographic regions that were predominantly prairie grassland.

1. Omit buildings and building sites when they are not critical to the management of the WPA.

2. A minimum of 20 percent of the entire delineation should be wet. (Use restorable drained, as well as existing basins in determining percent wetland.)

3. Maximum of 50 percent of the entire delineation may be wetland.

4. Written justification and approval of the Refuge Supervisor is needed when the size of the WPA purchased is under 80 acres or exceeds 1,000 acres.

5. Limit number of Waterfowl Production Areas to 4-5 per township.

Delineation Criteria for Habitat Easements

Grassland easements should be obtained on lands where a suitable wetland complex exists, but additional upland cover is necessary to provide adequate waterfowl breeding habitat (i.e., overlying a wetland easement).

Grassland easements must be within 2,600 feet of a wetland that provides brood habitat.
If requested by the owner, delineations may exclude one small tract (1-5 acres) on the exterior boundary and/or in a corner for parking and/or a building.

Generally roads and trails should not be allowed on habitat easements. If an access trail is absolutely necessary, the delineation should show the approximate route.

Delineation Criteria for Wetland Easements

It is preferred that wetland easements be obtained on all PEMA, PEMC, PEMF, and PEMG wetlands within two miles of fee title Waterfowl Production Areas or any other permanently protected brood marsh. Wetland easement maybe taken to permanently protect good brood marshes that would be otherwise unprotected.

Wetlands should be delineated to water levels that approximate the Ordinary High Water mark (i.e 100 year rainfall event).

All drained wetlands restored under the Partners for Wildlife, CRP, or other similar wetland restoration programs that are lacking permanent protection should be considered for wetland easement protection. Where easements include wetland restorations structures (ditch plugs, tile risers, culverts, etc) Project Leaders should consider requesting recorded mean sea level elevations.

Wetlands with drainage facilities (i.e. un-maintained ditches or tiles) that exhibit PEMC, PEMF or PEMG characteristics maybe delineated for easement purchase. In these situations the landowner(s) forfeit their rights to maintain the drainage facilities so the entire wetland should be placed under easement to eliminate any third party drainage rights. Restoration of partially drained wetlands to historic water levels is preferred and should be explored with the landowner prior to taking an easement.

Do not place artificial or created wetlands under easement (i.e., dugouts, stock dams, dams on natural streams/riparian areas).

Delineation Criteria Applicable to all SWAP Acquisitions

Avoid purchasing land with problems that will significantly affect the tract's biological integrity, diversity, and environmental health.

1. Try to avoid purchasing lands within city limits or adjacent to commercial or rural housing developments. Do not use the SWAP just to prevent commercial or rural development.

2. Do not purchase lands when a legal ditch(s) passes through the major brood marsh unless specific detail is provided that insures future water levels will be adequate (i.e., cleanout depths are agreed to by drainage authority or legal process for impoundment of water, or abandonment occurs concurrently with purchase).

3. Evaluate any recorded or unrecorded outstanding third party rights (i.e., ditches, tiles, access trails, mineral rights) and do not purchase lands when these rights substantially affect future management.

4. Avoid purchasing tracts without access.

5. Avoid purchasing tracts with costly future management problems (i.e., contaminants, flashy watershed with frequent flood damages, fish lakes, extensive invasions of exotic species, etc.).

6. Avoid purchasing tracts that are the recipient of sewage lagoon discharge or feedlot runoff.

7. Where management problems may develop and public uses significantly differ, avoid intermingling Service lands with other agency/NGO lands.

8. As they approve tracts for purchase, Project Leaders should consider the goal acres for each county to insure they are not exceeded before all essential tracts are purchased.

Prioritizing Acquisitions & Other Considerations

Priority should be given to fee title and habitat easement purchases using the SWAP Acquisition Priority Scorecard (Exhibit 2). Round-outs to existing fee title Waterfowl Production Areas should receive priority over other tracts. Wetland Easements will be assigned a high, medium or low priority and should be based on criteria similar to habitat easements and fee title tracts. Priority will be give to wetland easements covering previously drained wetlands that have been restored.

In targeting and prioritizing SWAP tracts Project Leaders should use Geographic Information System data including thunderstorm maps, land cover maps (grassland acreage), landscape characteristic maps and data on predator populations. Project Leaders also need to evaluate potential purchases for tracts where future management actions will significantly contribute to increased waterfowl production (i.e., purchase of a 100+ acre drained wetland that will be restored and managed for hemi-marsh conditions and over water nesting species of ducks).

In prioritizing tracts for purchase under the SWAP other wildlife benefits may help determine priority. These may include presence of large tracts of native prairie, endangered or threatened species, or colonial nesting birds, expanding and protecting large tracts of grassland as Grassland Bird Conservation Areas and resident species benefits (i.e., pheasant wintering marsh).

Format

All SWAP acquisitions will have the SWAP Acquisition Proposal cover sheet with fee title and habitat easement tracts including the SWAP Acquisition Priority Scorecard (Exhibit 2). The Project Leader's signature at the bottom of the SWAP Acquisition Proposal form represents approval for inclusion of the lands into the NWRS.

All SWAP delineations will be made on the most recent digital ortho quadrangles using the Wetland Management District Geographic Information System (GIS) acquisition format with the following standard colors (during FY02, field stations will transition from the pen and ink format to GIS.):

Boundary: Proposed Purchases (Fee or Easement): White

WPA: Existing - green	Wetland Easement: Existing - yellow
Habitat Easement: Existing - dark blue	Flowage Easement: Existing - light blue
FmHA Easement: Existing - red	Wetlands: blue

Show all drainage (tile, open ditch, county, and judicial ditches) with lines and arrows.

Show roads, railroads, and other rights-of-ways.

Show building sites within and adjacent to delineated areas.

All wetland easement delineations will have the USFWS Wetland Easement Field Form attached (Exhibit 3).

Suggested Reading

Greenwood, Raymond J., Alan B. Sargeant, Douglas H. Johnson, Lewis M. Cowardin, and Terry L. Shaffer. 1995. Factors associated with duck nest success in the Prairie Pothole Region of Canada. Wildlife Monographs 128:1-57. Jamestown, ND: Northern Prairie Wildlife Research Center Home Page. http://www.npwrc.usgs.gov/resource/othrdata/nestsuc/nestsucc.htm (Version 02JUN99).

Krapu, Gary L., Raymond J. Greenwood, Chris P. Dwyer, Kathy M. Kraft, and Lewis M. Cowardin. 1997. Wetland use, settling patterns, and recruitment in mallards. Journal of Wildlife Management 61(3):736-746. Northern Prairie Wildlife Research Center Home Page. http://www.npwrc.usgs.gov/resource/othrdata/wetlndus/wetlndus.htm (Version 14NOV97).

Johnson, Douglas. H. and James W. Grier. 1988. Determinants of breeding distributions of ducks. Wildlife Monographs 100:1-37. Jamestown ND: Northern Prairie Wildlife Research Center Home Page. http://www.npwrc.usgs.gov/resource/distr/birds/distduck/distduck.htm (Version 15APR98).

Cowardin, Lewis M., Terry L. Shaffer, and Kathy M. Kraft. 1995. How much habitat management is needed to meet mallard production objectives? Wildlife Society Bulletin 23(1):48-55. Jamestown, ND: Northern Prairie Wildlife Research Center Home Page. http://www.npwrc.usgs.gov/resource/othrdata/marshbrd/marshbrd.htm (Version 16JUL97).

Reynolds, Ronald E., Danny R. Cohan, and Michael A. Johnson. 1996. Using landscape information approaches to increase duck recruitment in the Prairie Pothole Region. Transactions of the North American Wildlife and Natural Resource Conference 61:86-93. Jamestown, ND: Northern Prairie Wildlife Research Center Home Page. http://www.npwrc.usgs.gov/resource/othrdata/incduck/incduck.htm (Version 16JUL97).

Johnson, Douglas. H. and James W. Grier. 1988. Determinants of breeding distributions of ducks. Wildlife Monographs 100:1-37. Jamestown ND: Northern Prairie Wildlife Research Center Home Page. http://www.npwrc.usgs.gov/resource/distr/birds/distduck/distduck.htm (Version 15APR98).

Sargeant, Alan B., Raymond J. Greenwood, Marsha A. Sovada, and Terry L. Shaffer. 1993. Distribution and abundance of predators that affect duck production - Prairie Pothole Region. U.S. Fish and Wildlife Service, Resource Publication 194. Jamestown, ND: Northern Prairie Wildlife Research Center Home Page. http://www.npwrc.usgs.gov/resource/distr/others/predator/predator.htm (Version 16JUL97).

Cowardin, Lewis M., David S. Gilmer, and Charles W. Shaiffer. 1985. Mallard recruitment in the agricultural environment of North Dakota. Wildlife Monographs 92:1-37. Jamestown, ND: Northern Prairie Wildlife Research Center Home Page.http://www.npwrc.usgs.gov/resource/othrdata/recruit/recruit.htm (Version 02JUN99).

Winter, Maiken, Douglas H. Johnson, Therese M. Donovan, and W. Daniel Svedarsky. 1998. Evaluation of the Bird Conservation Area Concept in the Northern Tallgrass Prairie. Annual Report: 1998. Northern Prairie Wildlife Research Center, U.S. Geological Survey, Jamestown, ND: Northern Prairie Wildlife Research Center Home Page. http://www.npwrc.usgs.gov/resource/1999/bcarprt/bcarprt.htm (Version 18MAY99).

Kantrud, Harold A., Gary L. Krapu, and George A. Swanson. 1989. Prairie basin wetlands of the Dakotas: A community profile. U. S. Fish and Wildlife Service, Biological Report 85(7.28). Jamestown, ND: Northern Prairie Wildlife Research Center Home Page. http://www.npwrc.usgs.gov/resource/othrdata/basinwet/basinwet.htm (Version 16JUL97).

SWAP ACQUISITION PROPOSAL

Exhibit 1

To:

From:

Tract Name:_____Size:_____

County:_____Township/Section:_____

Owner's Name:_____
Address:_____

_____
Phone Number:_____

Interested Individual when not owner:_____

Acquisition Type: Fee_____ Wet Ease_____ Flow Ease_____

Habitat Ease: Total_____Hay_____Graze_____Hay and Graze_____

Priority: Fee & Habitat Easement: Round-out_____ Score_____

Wetland Easement: Restoration_____High_____Medium_____Low_____

Comments:

Delineation Contact:
Name:_____Phone:_____
Address:_____
E-mail:_____Fax:_____

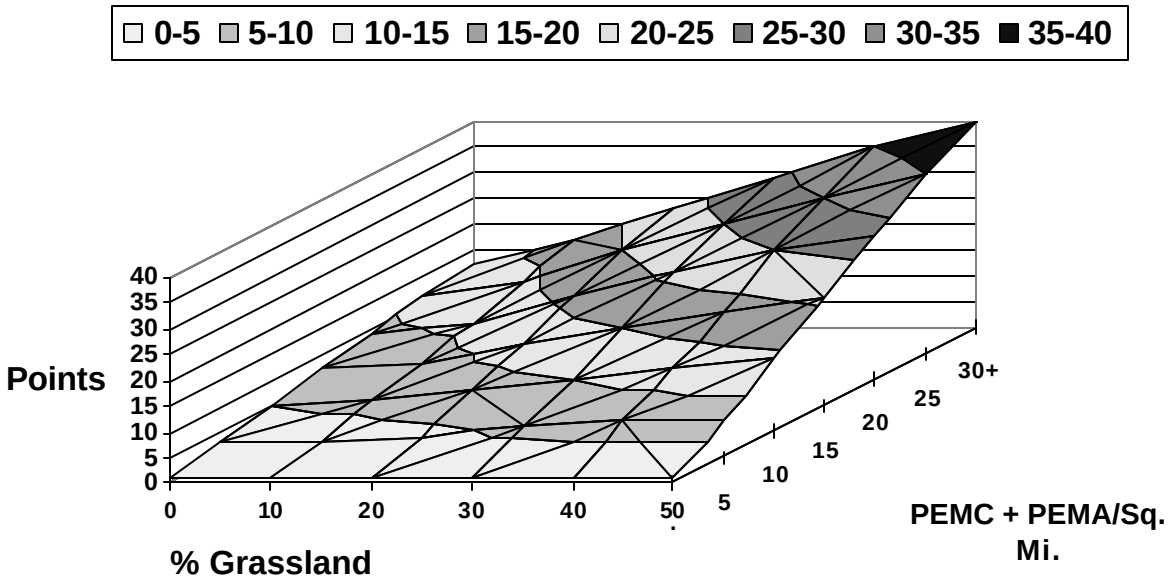
Approved_____ Date_____
Project Leader

SWAP FEE & HABITAT EASE ACQUISITION PRIORITY SCORECARD

Exhibit 2

Landscape Setting Score - within 2 mile radius of center of delineation (maximum of 40) _____

PEMA + PEMC - Include existing and permanently protected restorable temporary & seasonal wetlands.



% Grassland - Include all pasture, hay land, CRP, idle grass and other grassland.

WPA Delineation Score (maximum of 50) _____

Final Size of WPA

80-160 ac. - 2 pts 160-320 ac. - 5 pts 320-640 ac - 8 pts 640+ ac - 10 pts

Wetland Density (existing + restorable within eventual boundary)

0-10/sq mi - 2 pts 10-20/sq mi - 5 pts 20-30/sq mi - 8 pts 30+/sq mi.- 10 pts

Wetland to Upland Ratio (within eventual boundary)

1:1 - 2 pts 1:2 - 5 pts 1:3 - 8 pts 1:4 - 10pts

Wetland Type Ratio (number of PEMF to PEMA+PEMC basins)

$\leq$1:10 - 1 pt 1:10 - 1:20 - 2 pts 1:20 - 1:30 - 4 pts $\geq$1:30 - 5 pts

100+ acre PEMF that naturally or with a w/c structure installed provides hemi-marsh conditions for over-water nesting species of diving ducks - 10 pts

Soils:

Tract contains 75% or greater Mollisol Series Soils - 5 pts

Other Factors Score (5 pts. each maximum of 10 pts.) _____

Native Prairie within delineation (minimum size 40 acres)
Presence of Endangered or Threatened Species
Presence of breeding population of Colonial Nesting Birds
Within Boundary of Identified GBCA or Shorebird CA
Provides "Substantial Benefit" to local population(s) of Resident Species
Adjacent to permanently protected waterfowl habitat (i.e. WRP, RIM, state easement)

Total Score (maximum of 100) _____

USFWS WETLAND EASEMENT FIELD FORM

Exhibit 3

Date:_____ County:_____ Township Name:_____

Legal Description of Proposed Easement: **(Attach photo with numbered basins)**
T. _____N., R. _____W., section _____, _____

Contact made by: _____ Mapped by:_____

Owner's Name: _____

Interested individual when not owner:_____

Easement Program Explained? Y N N/A

Basin No.	Type	Present Condition*				Basin No.	Type	Present Condition*			
1	____	1	2	3	4	21	____	1	2	3	4
2	____	1	2	3	4	22	____	1	2	3	4
3	____	1	2	3	4	23	____	1	2	3	4
4	____	1	2	3	4	24	____	1	2	3	4
5	____	1	2	3	4	25	____	1	2	3	4
6	____	1	2	3	4	26	____	1	2	3	4
7	____	1	2	3	4	27	____	1	2	3	4
8	____	1	2	3	4	28	____	1	2	3	4
9	____	1	2	3	4	29	____	1	2	3	4
10	____	1	2	3	4	30	____	1	2	3	4
11	____	1	2	3	4	31	____	1	2	3	4
12	____	1	2	3	4	32	____	1	2	3	4
13	____	1	2	3	4	33	____	1	2	3	4
14	____	1	2	3	4	34	____	1	2	3	4
15	____	1	2	3	4	35	____	1	2	3	4
16	____	1	2	3	4	36	____	1	2	3	4
17	____	1	2	3	4	37	____	1	2	3	4
18	____	1	2	3	4	38	____	1	2	3	4
19	____	1	2	3	4	39	____	1	2	3	4
20	____	1	2	3	4	40	____	1	2	3	4

*Legend: 1 - Existing basin qualifies in present condition
2 - Basin qualifies with no maintenance of drainage facility
3 - Basin qualifies with restoration
4 - Does not qualify for easement

Comments:

Appendix M: Goal Acres

Appendix M: Goal Acres

	Purchase Options			Easements		
County	Procedural Agreement Total Acres	Total Acres Approved To Date	Current Balance	Procedural Agreement Total Acres	Total Acres Approved To Date	Current Balance
Becker	19,220.00	12,014.49	7,205.51	31,900.00	7,798.47	24,101.53
Big Stone	15,600.00	11,140.81	4,459.19	42,640.00	25,629.35	17,010.65
Clay	23,960.00	10,374.43	13,585.57	35,400.00	19,598.24	15,801.76
Cottonwood	6,446.38	3,184.78	3,261.60	4,000.00	398.92	3,601.08
Douglas	17,120.00	9,605.37	7,514.63	31,226.00	26,747.69	4,478.31
Faribault	5,920.00	806.24	5,113.76	4,000.00	269.28	3,730.72
Freeborn	3,610.00	1,396.63	2,213.37	4,000.00	379.10	3,620.90
Grant	18,854.00	9,977.96	8,876.04	20,737.00	14,618.07	6,118.93
Jackson	8,500.00	4,161.89	4,338.11	3,000.00	425.85	2,574.15
Kandiyohi	16,800.00	13,254.47	3,545.53	32,660.00	14,677.34	17,982.66
Lac qui Parle	6,600.00	4,005.00	2,594.01	23,540.00	4,491.24	19,048.76
LeSueur	4,230.00	412.76	3,817.24	9,100.00	450.86	8,649.14
Mahnomen	14,000.00	5,406.94	8,593.06	35,250.00	18,026.09	17,223.91
McLeod	5,380.00	951.66	4,428.34	5,093.00	2,425.04	2,667.96
Meeker	15,440.00	4,619.28	10,820.72	14,700.00	8,035.58	6,664.42
Morrison	6,320.00	466.00	5,854.00	4,900.00	-	4,900.00
Norman	9,400.00	1,119.00	8,281.00	4,900.00	-	4,900.00
Otter Tail	35,704.62	20,825.73	14,878.89	75,290.00	70,516.57	4,773.43
Polk	22,700.00	11,161.77	11,538.23	46,460.00	7,829.18	38,630.82
Pope	21,000.00	13,289.22	7,710.78	44,180.00	33,570.49	10,609.51
Stearns	14,900.00	9,063.18	5,836.82	15,810.00	4,818.83	10,991.17
Stevens	12,850.00	9,371.15	3,478.85	6,090.00	4,007.55	2,082.45
Swift	10,800.00	6,904.60	3,895.40	14,540.00	4,931.85	9,608.15
Todd	6,560.00	803.35	5,756.65	4,800.00	112.00	4,688.00
Traverse	6,720.00	4,103.98	2,616.02	8,440.00	3,983.31	4,456.69
Wilkin	2,997.00	2,197.00	800.00	1,430.00	1,066.00	364.00
Wright	17,140.00	2,180.14	14,959.86	7,515.00	1,920.58	5,594.42
Yellow Medicine	1,260.00	963.85	296.15	7,860.00	637.27	7,222.73
Other Counties*	41,428.00	9,485.22	31,942.78	47,859.00	7,986.39	39,872.61
Totals	**391,460.00**	**183,247.89**	**208,212.11**	**587,320.00**	**285,351.14**	**301.968.86**

*Other Counties		
Blue Earth	888.45	87.00
Carver		48.00
Chippewa	246.47	120.00
Clearwater		4,582.68

Continued Next Page

Appendix M: Goal Acres

	Purchase Options			Easements		
County	Procedural Agreement Total Acres	Total Acres Approved To Date	Current Balance	Procedural Agreement Total Acres	Total Acres Approved To Date	Current Balance
***Other Counties Continued**						
Dakota		73.90			0.18	
Lincoln		754.26			739.33	
Lyon		1,574.48			231.00	
Martin		74.00			437.88	
Murray		1,886.63			86.00	
Nobles		508.27			94.44	
Renville		1,091.23				
Rice		615.00			783.82	
Rock					60.14	
Scott		40.00			164.00	
Sibley		797.92			307.83	
Steele		630.13				
Waseca		248.78				
Watonwan		55.70			244.09	
Totals / Other Counties		**9,485.22**			**7,986.39**	

Appendix O: Drainage Policy

Wetland Management District
Ditch and Tile Maintenance Policy

This policy applies to existing constructed ditches or tiles that come onto Waterfowl Production Areas (WPAs) where no reservation of a drainage easement exists in the WPA title/deed. If there is a drainage reservation in the deed, we will follow the terms of that reservation.

- No new wetland or upland drainage facility will be allowed within a WPA.
- Existing drainage cannot be improved beyond the original construction.
  - Tile may not be replaced with a larger tile.
  - Ditches may not be cleaned out beyond original depth, width or length
  - Ditches may not be replaced with tile lines except where either the tile is installed at the same or higher elevation than the original ditch bottom or in other rare exceptions to solve severe erosion.
- All materials cleaned out of the ditch will be removed from the WPA.
- All construction sites on WPAs will be seeded down to a grass mix specified by the Service.
- Cleanout activities will not be allowed during the waterfowl breeding season (April 1 through August 1).
- If silt deposition is a concern, the Service will request that a grassed waterway or silt basin be installed upstream of our property to help reduce future siltation.
- Cleanout of natural (never ditched) drainageways will not be allowed.
- Ditch and tile maintenance work on WPAs will only be done after the Wetland District Manager has approved the project and issued a special use permit. (Note: Compatibility Determinations are not necessary since the Service does not control maintenance of the system; the Service only controls the timing and scope of maintenance)
- Landowners may still be subject to Swampbuster, WCA and COE rules on maintenance and abandonment of ditches.
- Mowing or spraying of approved herbicide in a ditch after August 1 may be permitted in lieu of excavation.
- If the ditch has not been cleaned or a tile not functioned for 25-plus years and/or the watershed above the ditch has been substantially altered since the Service purchased the property (i.e significant increase in flows or degradation of water quality) a formal ROW request maybe required as determined by the Wetland Manager.